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NOVEMBER, 1970

Vol. 44, No. 4

**BOB SHAW'S BOLD NEW NOVEL**

<b>ONE MILLION TOMORROWS .....</b>	<b>6</b>
------------------------------------	----------

**NEW NOVELETS**

<b>A TIME TO TEACH, A TIME TO LEARN, NOEL LOOMIS...</b>	<b>36</b>
<b>ENEMY BY PROXY, JACK WODHAMS.....</b>	<b>56</b>

**NEW SHORT STORY**

<b>THROUGH THE DARK GLASS, GERARD F. CONWAY.....</b>	<b>68</b>
--	-----------

**FAMOUS AMAZING CLASSIC**

<b>FISH MEN OF VENUS, DAVID WRIGHT O'BRIEN .....</b>	<b>84</b>
--	-----------

**NEW FEATURES**

<b>EDITORIAL, TED WHITE .....</b>	<b>4</b>
<b>DIANETICS: THE EVOLUTION OF A SCIENCE</b>	

<b>A personal report by BARRY N. MALZBERG .....</b>	<b>75</b>
---	-----------

<b>SCIENCE IN SCIENCE FICTION (Not With A Whimper), GREG BENFORD AND DAVID BOOK.....</b>	<b>116</b>
--	------------

<b>THE CLUB HOUSE, JOHN D. BERRY.....</b>	<b>123</b>
---	------------

<b>... OR SO YOU SAY .....</b>	<b>132</b>
--------------------------------	------------

<b>THE FUTURE IN BOOKS.....</b>	<b>137</b>
---------------------------------	------------

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## EDITORIAL

I've been back from this year's Midwescon only a matter of hours as I write this, and my back itches from a mild case of sunburn.

The Midwescon is one of those "regional" sf conventions which is sponsored by the same group each year and meets in the same city. The sponsors of the Midwescon are the members of the Cincinnati Fantasy Group, and the convention has been held in the general Cincinnati area for twenty-one years, now—making it the second oldest convention of its type. Traditionally—for the past fifteen years—the Midwescon has been held in a suitable motel on the outskirts of the city. Also billed as "the Relaxicon," the Midwescon has a minimum of programming and a maximum of unorganized socializing—as a rule, around the swimming pool. Hence, my sunburn. It too is a tradition, with me at least.

Cincinnati is located in western Ohio, and is fairly central in that respect, so it pulls a

number of fans and professionals from around the country. I've been attending Midwescons since 1957, and I've watched the attendance grow from less than a hundred to something more than two hundred, the hard core of regulars remaining the same year after year.

When I arrived at the convention motel this year, the first person I ran into was Bob Tucker—Wilson Tucker, to the readers of his many mystery and sf novels—whose disembodied voice I heard from a balcony overhead. Later that weekend we enjoyed a brief success as a shuffleboard team, but that night I pulled out advance copies of *AMAZING* and *FANTASTIC* for him to thumb through, while slipping in none-too-subliminal pitches for a new Wilson Tucker short story or three.

That same evening I ran into Bea Mahaffey, and we compared notes on our respective careers as editors—she edited *OTHER WORLDS* for *AMAZING*'s former editor, Ray Palmer. As we lounged in the

(CONTINUED ON PAGE 129)

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# **ONE MILLION TOMORROWS**

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## **BOB SHAW**

Illustrated by MICHAEL HINGE  
(First of Two Parts)

### **CHAPTER ONE**

**I**N THE EARLY part of the morning Carewe sat quietly at his desk, doing absolutely nothing. He was not experiencing the physical effect of a hangover—the oxygen and ascorbic acid bomb he had swallowed before breakfast was taking care of that—but a faint tension, the ghost of a tremor flickering in his nerves told him Nature was not so easily cheated. In an obscure way he felt he would have been happier serving penance with a raging headache and nausea.

*I'm forty years old and can't take it so well any more,* he thought. *One of these days I'll have to tie off.* Instinctively he

touched the bristles on his upper lip and chin. They were five millimeters long—fashionable for a funkier of his age—and had an almost metallic resistance to the pressure of his fingers, rows of little toggle switches which brought pleasure/pain/reassurance when he pushed them over. *Don't tie off,* he repeated the catch phrase to himself, *tie off.*

He looked out through the transparent wall of his office. Beyond the glittering trapezoids of the city, the Rockies shone with a whiteness which pulsed in tune with his heartbeats. There should have been more snow that morning but the weather control teams had got in first, and the sky above the icy palisades was strangely alive.

Sunlight heaved and shifted on the intangible membranes of control fields made visible by the ice particles they contained. To Carewe's depressed gaze the sky was a vista of overworked gray gut. He turned his head away and was trying to concentrate on a sheaf of compcards when the telepres chimed its soft note. The head of Hyron Barenboim, president of Farma Incorporated, floated at the set's projection focus.

"Are you there, Willy?" The insubstantial eyes quested blindly. "I want to see you."

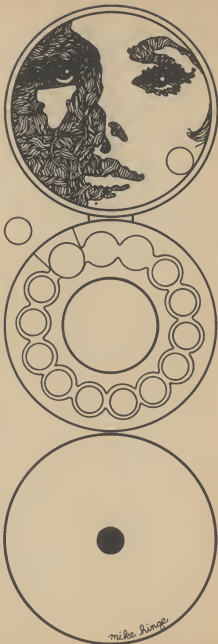
"Right here, Hy." Carewe pushed the compcards out of sight before he opened the vision circuits—they should have been dealt with two days earlier. "What can I do for you?"

Barenboim's eyes steadied on Carewe's face and he smiled. "Not over the beam, Willy. Come into my office in five minutes. That is, if you can get away."

"I can, of course."

'Good boy. I've got something I want to discuss with you—in private.' Barenboim's hairless face faded into the air leaving Carewe prey to vague alarms. The president had seemed friendly—Carewe had never found him otherwise, in spite of what most Farma employees said about the man—but he had given a distinct impression of having something on his mind. And Carewe disliked personal contact with old cools, even on a purely social basis. The age of one hundred years was the barrier in his mind—below that a cool could still be regarded as an ordinary human being. But when it came to dealing with someone like Barenboim, who was five years past his two hundredth birthday . . .

Carewe got to his feet uneasily. He mirrored the outer wall of the office, straightened his tunic and examined himself. Tall, wide-shouldered without



being particularly athletic, with straight black hair and a pale, slightly desperate face on which dark bristles sketched a signoral beard—he looked presentable enough, if not exactly the ideal picture of an accountant. Why then did he dread talking to cools like Barenboim and the vice-president, Manny Pleeth? *Because it's time you were going cool*, an inner voice told him. *It's time for you to tie off and you don't like to be reminded. You're a real funkier, Willy, and I'm not using the word as a corruption of functional, but the way the cools use it. Funkier!*

Stroking his bristles the wrong way, jabbing them painfully into his flesh, Carewe hurried out of the office and into the reception area. He made his way through the waist-high admin machines, nodding thoughtfully at Marianne Tone as she tended her electronic charges, and went into the short corridor leading to Barenboim's suite. The inner door's round black eye blinked at him once, in recognition, and the polished wood slid aside. He stepped through into the big sunny suite which was always filled with the smell of coffee. Barenboim, working with papers on his blue-and-red desk, smiled and waved Carewe into a chair.

"Just relax for a moment, son. Manny will be with us in a few seconds—I want him to be in on this too."

"Thanks, Hy." Suppressing his curiosity, Carewe sat down and studied his employer. Barenboim was a medium-sized man with a flat, sloping forehead, pronounced eyebrow ridges and an upturned, flaring nose. In contrast to the almost simian cast of the upper part of his face, his mouth and chin were small and delicate. His white hands, busy arranging papers and compcards, were hairless and slightly puffy. Unlike many cools of his age, he made a point of always being a few months ahead of fashion. *He*

*looks forty, but he's two centuries old*, Carewe thought. *He's entitled to address me as son—by his standards I'm pre-adolescent*. He touched his bristles again and Barenboim's eyes flickered in their grottoes of bone. Carewe knew that his reflexive action had been noted and interpreted in the light of two hundred years of stored experience. He also understood that by making the movement of his eyes perceptible Barenboim was telling he knew what he was thinking, and wanted him to *know* that he knew . . . Carewe felt the pressure mounting within his skull and he shifted uncomfortably, looking out the wall. A snowstorm was still being digested in the troubled gray air. He watched the Valkyrien struggle until the door to the connecting office announced that Vice-President Pleeth was coming in.

In his six months with Farma, Carewe had seen Manny Pleeth only a few times, usually at a distance. He was a sixty-year-old cool who, judging by his boyish appearance, had tied off around the age of twenty. His face, like that of any other cool, was beardless and looked as though it had been scrubbed with pumice stone to remove even the last traces of down. The skin was a uniform glowing pink from hairline to throat, a color which extended into the whites of his pale blue eyes. Carewe was forcibly reminded of the comic book characters he had seen in history of literature programs—a cartoonist would have rendered Pleeth's nose with a single hooked stroke, the lipless mouth with a small up-curving line representing taut amusement over some unknowable, unguessable thought lurking behind the plastic-smooth forehead.

Pleeth wore an amber-colored tunic and hose, unadorned except for a cigar-like ornament of cisele gold hanging from his



neck. He nodded at Carewe, the curve of his mouth changing radius fractionally, and took up his position beside Barenboim, sitting down apparently on empty air but supported by the QueenVic magnetic chair built into the seat of his hose.

"Well, here we are," Barenboim said immediately, pushing his papers to one side and fixing Carewe with a solemn, friendly stare. "How long have you been with Farma, Willy?"

"Six months."

"Six months—and would it surprise you if I told you that Manny and I have been watching you very closely during your time with us?"

"Ah . . . I do know you keep in close contact with the whole operation," Carewe fenced.

"That's true, but in your case we've been taking a special interest. A *personal* interest, Willy, because we like you. And the reason we like you is that you have a very rare quality—common sense."

"Oh?" Carewe looked closely at the two men, seeking guidance; but Barenboim's face was unreadable as ever, and Pleeth rocked gently on his invisible chair, his eyes pale flat disks, mouth smiling tightly as he considered secret triumphs.

"Yes," Barenboim continued. "Common sense, horse sense, plain savvy—call it what you will—but no business can prosper without it. I tell you, Willy, I get some bright boys coming to me for jobs, and I send them away because they're *too* bright, educated to the point where they're never lost for somebody else's words. They're like computers which do a million calculations a second and at the end of it all send a newborn babe a power bill for a thousand dollars. Know what I mean?"

"I've met some like that." Carewe laughed compliantly.

"So have I—too many of them—but

you're not like that. Which is why I've brought you along so fast, Willy. You've been here six months and already you're monitoring costs for the whole of biopoiesis division. In case you're in any doubt about it—that's *very* fast. Other men have been with me four, five years and are still out on the floor."

"I do appreciate all you've done for me, Hy." Carewe's curiosity intensified. He knew he was a reasonably good cost accountant—could it be that some freak interaction of personalities, working out in his favour, was going to catapult him to top-management status years ahead of time?

Barenboim looked at Pleeth, who was toying with his gold cigar, and then back at Carewe. "Now that I've made the position clear—will you permit me to ask you a very personal question? Do you feel that I have that right?"

"Of course, Hy." Carewe swallowed. "Ask away."

"Fine. Here it is then. You are forty years old, Willy, and you're still a functional male—when are you planning to tie off?"

The question hit Carewe with savage force, devastating in both its unexpectedness and the way in which it stabbed straight to the core of the anxiety about his marriage which had been building up for over five years, ever since that first gray hair had appeared on Athene's temple. He felt his cheeks warm up as he struggled for words.

"I . . . I hadn't set a firm date, Hy. Athene and I have talked a lot about it, naturally, but we both feel there's plenty of time."

"Plenty of time! You surprise me, Willy. You're forty years old. The sterols don't wait for any man, and you know as well as I do that the build-up of arterial plague is the one physiological process that the biostats can't reverse."

"There are anticoagulants," Carewe said quickly, with as little conscious thought as a fighter fending off a blow.

Barenboim looked unimpressed but, obviously deciding on a different tack, he picked up a compcard and slipped it into a reader. "This is your personnel file, Willy. I see that . . ." he peered into the hand-sized screen, ". . . your wife is still registered with the State Health Board as a mortal. And, according to the record, she's thirty-six. Why has she delayed so long?"

"It's difficult for me." Carewe took a deep breath. "Athene is a funny girl in some ways. She . . . She . . ."

"She refused to fix until you had done it too. The same situation crops up more often than you'd think among couples who are trying one-to-one marriages. It isn't too surprising in a way, but . . ." Two centuries of sadness showed themselves in Barenboim's smile. "Just between us, Willy—how long can you let it go on?"

"I . . . As a matter of fact, Hy, we're ten years married next week." Carewe listened to his own voice with amazement, wondering what enormities were going to emerge. "I had privately made up my mind that Athene and I should have a second honeymoon to mark the anniversary. Then I was going to tie off."

Wonderment and gratitude showed on Barenboim's face as he glanced at Pleeth, who nodded and bounced, a pink caricature of satisfaction. "You don't know how pleased I am that you've made your decision, Willy. I didn't want to put any kind of pressure on you. I wanted you to act as a completely free human being."

*What's happening to me?* Carewe fought to keep from touching his bristles as the thought became a cold flame in his mind. *I wasn't planning to tie off next month.*

"Willy," Barenboim said kindly. "You're no fool. Up till now this conversation has

had absolutely no point—and you're sitting there wondering why I asked you in here. Right?"

Carewe nodded abstractedly. *I can't tie off*, he thought. *Athene loves me, but I'd lose her in a year.*

"Well, here is the point." Barenboim's words—shaped and projected with the mastery of three normal lifespans—were taut with sudden excitement, and Carewe found himself filled with an icy premonition. "How would you like to become the first man in the history of the human race to become immortal—and still remain a functional male?"

Explosion of images, unrelated words, concepts, desires, fears. Carewe's mind went on a trip across multiple infinities, black stars wheeling above silver seas.

"I see I've hit you pretty hard, Willy. Take a moment to get used to the idea." Barenboim leaned back contentedly, interlacing his white fingers.

"But it can't be done," Carewe said. "Everybody knows . . ."

"You're like the rest of us, Willy. You can't accept the realization that Wogan's Hypothesis is just what it claims to be—an hypothesis. It's a very neat, very elegant philosophical notion that an immortal being must be unable to reproduce its kind. Wogan said that where a biostatic compound comes into existence, whether by accident or design, Nature will apply the brake of male sterility to preserve the ecological balance.

"But wasn't he being presumptuous, Willy? Wasn't he elevating a local phenomenon to the level of a universal . . .?"

"Have you got it?" Carewe interrupted harshly, his mind clouded with the knowledge that every pharmaceutical house in the world had been in reckless, squandering pursuit of a spermatid-tolerant

biostat for more than two centuries—without success.

"We've got it," Pleeth whispered, speaking for the first time, the pink curvatures of his face glowing with inhuman certainty. "All we need now is a billion-dollar guinea pig—and that's you, Willy."

## CHAPTER TWO

"I'LL NEED a complete rundown on what's involved," Carewe said, in spite of the fact that he had already made his decision. Athene had never looked more attractive, but lately he had begun to notice in her face the first faint reminders that it was time to stop playing the game of walking around in small circles and pretending it wasn't wearing your shoes out just the same. *We enjoy a week-end of purple-glowing noons, and when its last minutes run through our fingers we haven't the honesty to weep. "Next week-end will be just as good," we say, pretending that next week-end will be the same week-end repeated, that our personal calendar with its cycles of weeks, months and seasons is a true map of time. But time is a straight black arrow . . .*

"Of course, my boy," Barenboim said. "The first thing I must impress on you is that we have to preserve utter secrecy. Or am I teaching my grandmother to suck eggs?" He fixed Carewe with a look of rueful respect, paying homage to his accountant's hard-headedness. "I imagine you could tell me how much Farma could suffer if another concern got wind of this before we were ready."

"Secrecy is absolutely vital," Carewe agreed, his mind still filled with images of Athene's face. "Does that mean my wife

and I would have to drop out of sight?"

"No! Quite the reverse. Nothing would attract the attention of a commercial spy more quickly than your leaving here and appearing, say, in our Randal's Creek laboratories. Manny and I feel it would be best for you and Athene to go on with your normal lives as if nothing out of the ordinary was happening. You can have routine medical checks right here in this office without anybody knowing."

"You mean, pretend I haven't tied off?"

Barenboim studied the powdery skin of his right hand. "No. Pretend you *have* tied off—such an ugly phrase, don't you think? Remember there is no tying off involved. You will remain a functional male, but it would be safer if you began using depilatories on your face and in general acted reasonably cool."

"Oh." Carewe was surprised at the strength of the negative reaction he felt. He had had the stupendous good luck to be offered immortality with no strings attached—ten minutes ago such an event was an impossible, yearning dream—yet here he was about to quibble over a triviality like showing off the outward sign of his virility. "Naturally I'll agree to anything you say, Hy, but if the new drug is all you say it is wouldn't it be better if I pretended not to have taken a shot?"

"In other circumstances—yes. But I daresay most of your friends know about the little hang-up you and your wife have over the shots. Mmmph?"

"I guess they do."

"So they're going to think it strange if Athene suddenly goes immortal while you apparently remain as you are—and you know how hard it is to disguise the fact that a woman has taken her shot."

Carewe nodded, remembering that women were nature's true immortals. A side-effect of the biostatic drug on the

female system was perfect regulation of production of the oestradiol steroid, creating a glow of almost aggressive good health similar to that which occurs in the early weeks of an ideal pregnancy. He pictured Athene in that condition of Olympian well-being, *permanently*, and cursed himself for having hesitated.

"I see you're way ahead of me, Hy. I suppose you want to talk to my wife about this?"

"Definitely not. I haven't had the pleasure of meeting your wife previously and, even though her psychofile shows she's the type who can keep a secret, it would be better if I didn't meet her just yet. There mustn't be even the slightest change in the routine of your domestic life. Follow?"

"You want me to explain everything to her myself?"

"That's it. I leave it to you to make her see how important secrecy is." Barenboim glanced at Pleeth. "I think we can put that much trust in young Willy, here. What do you say, Manny?"

"I would say so." Pleeth nodded and bounced, the pink-stained whites of his eyes gleaming in the morning light. The gold cigar glittered on his chest.

Barenboim clicked his tongue approvingly. "There you are. One thing we *would* want you to do is spend a few days being checked over at Randal's Creek right after you take the shot, but we can easily contrive something in the biopoiesis laboratory which will require a visit from the costing monitor. There'll be no security risk."

Carewe tried a casual smile. "This is a tremendous technical breakthrough, Hy! How much can you tell . . .?"

"Nothing. Taboo. The less you know about the research side the better. We designate the new drug E.80, but even that is more information than you require."

"Well," Carewe spoke carefully, "can you tell me if there's any real danger in this test?"

"Only the very slight risk of disappointment—we haven't had a full-scale test before—but I think you'd be able to survive the unlikely event of a disappointment, Willy. We don't expect you to do this for nothing."

"I didn't mean to . . ."

"It's all right." Barenboim waved a puffy hand. "You're quite right to wonder what's in it for you. If I see that one of my men is careless about his own money I ask myself what he'll be like with mine. Know what I mean?"

The up-curve of Pleeth's mouth became more pronounced and, taking the cue, Carewe smiled in appreciation. "I like that."

"Here's something you'll like even more. As you know, we've introduced quite a few new cost control techniques lately. My chief accountant is due for his twenty-year rotation to a lower grade in three years, but in view of all the recent procedural innovations he is prepared to step down a little earlier. His job could be yours in less than a year."

Carewe swallowed. "But Walton's a superb accountant. I wouldn't like to push him . . ."

"Nonsense! Walton's been with me for over eighty years, and I can tell you he's looking forward to rotating down and then battling his way back up again. He's done it three times already—*loves* it!"

"Does he?" Carewe put aside the thought that under the rotation system he too would eventually have to relinquish the executive status. He could feel the golden centuries rolling out before him like a lush, endless carpet.

His visit to the president's suite would

have been widely noted among the staff, so Carewe resisted the impulse to quit work early and break his news to Athene. Business as usual, he told himself, and sat imprisoned at his desk while his mind drifted in heady breezes of speculation. It was late afternoon before he remembered he had promised Athene to get in sharp at five to help with the preparations for a modest party she was giving. He glanced at his wrist and the dial tattooed on the skin, rearranging its pigmentation molecules in accordance with the standard time signals broadcast, told him he had less than thirty minutes in which to reach home.

Marianne Tone looked up from her desk on the admin computer as he came out of his office. "Leaving early, Willy?"

"A little—we're having a party this evening and I've got to weigh in."

"Come over to my place and we'll have a *real* party," Marianne said smiling, yet seriously. "Just the two of us." She was a tall, slightly heavy brunette with a voluptuous broad-hipped figure and disappointed eyes. Her apparent age was about twenty five.

"Just the two of us?" Carewe parried. "I didn't realize you were so conventional at heart."

"Not conventional—greedy. How about it, Willy?"

"Where's your maidenly modesty, woman?" He moved towards the door. "It's getting so a man isn't safe in his own office."

Marianne shrugged. "You needn't worry—I'm leaving next week."

"Sorry to hear that. Where for?"

"Swifts."

"Oh!" Carewe knew that Swifts was a computer bureau with non-mixed staff, all female.

"Yes—oh! It's probably all for the best, anyway."

"Have to run, Marianne. See you in the morning." Carewe hurried out to the elevator burdened with an obscure guilt. Swifts was well-known for the activity of its Priapic Club, and the fact that Marianne was going there indicated she was giving up the endless struggle to attract funkies. He guessed she would be happier; but there was pain in the thought of Marianne's cone-thighed, child-hungry figure submitting to the straps of a plastic priapus.

The air outside the Farma block was cold for late spring, although the abortive snowstorm of the morning had been successfully dumped in the Rockies. Carewe adjusted the thermostat in his belt and hurried past the security man, still feeling depressed about Marianne Tone. *E.80 has to be a success*, he thought. *For all our sakes.*

He had turned towards his bullet when a tiny movement on the ground at the edge of the parking lot registered on his peripheral vision. At first he was unable to find what had attracted his attention, then he picked out the shape of a large frog completely covered with dust and cinders. Its throat was pumping steadily. He stepped over it, went to his bullet and got in quickly. The rush-hour queue would already be forming at the entrance to the Three Springs tube and he had no time to spare if he wanted to reach home early. He spun up the engine, accelerated out onto the highway and headed south. A mile from the Farma block he braked abruptly and, muttering with self-disgust, turned back. Others were leaving the building when he got back to it and headlights were blazing in the vehicle park, but he found the frog in the same place, still pulsing defiantly.

"Come on, boy," he said, scooping up the cold gritty body. "Anybody could lose his sense of direction after six month's sleep." He waited for a break in the traffic, then

crossed the highway and threw the frog into the dark waters of the reservoir which lapped the road. A steady stream of bullets and roadcars was moving past him now and he had trouble getting back to his own vehicle. Wondering if anybody in the security kiosk had been watching his performance, he forced his bullet out into the traffic flow but the few lost minutes had been critical. It took him another ten to reach the Three Springs tube and he groaned as he saw the line of bullets at its entrance.

Dusk was gathering by the time he reached the breech. The roboloader photographed his registration plate and slid the bullet into the tube, leaving the chassis behind on a moving belt which carried it towards the north-bound exit for use by an arriving vehicle. Carewe tried to relax as his machine passed through the sphincter valve. With tons of air pressure behind him he would cover the hundred miles to Three Springs in twenty minutes, but there would be another queue for chassis at the northern end and he was going to be an hour late reaching home.

He debated calling Athene on the carphone to explain what was happening, then decided against it. There was far too much to talk about

Athene Carewe was tall and black-haired, with a snaky, hipless body which she could coil like a whip in relaxation or straighten like a steel blade in anger. Her features were regular except for a slight droop of the left eyelid—the result of a childhood accident—which sometimes made her look supercilious, sometimes conspiratorial. When Carewe entered the middle-bracket geodesic bubble he was buying on a one-century mortgage, she had already retracted the interior walls in preparation for the party. She was dressed in a light-necklace

which clothed her in the fire of jewels and lake-reflected sun.

"You're late," she said, without preamble. "Hello."

"Sorry—I got held up. Hello."

"I had to put the walls away myself. Why didn't you call me from the office?"

"I said I was sorry. Besides the hold-up happened after I left the office."

"Oh?"

Carewe hesitated, wondering if he should risk annoying her further by mentioning the frog. One-to-one marriages were rare in a society in which nubile females outnumbered functional males by a factor of eight. By signing an agreement not to tie off for several years he should have made a multiple marriage, the combined dowry from which would have been a fortune. One of the unwritten laws of his relationship with Athene was that she was not required to be subdued or appear grateful, and when she felt like having a row it was always the genuine article. Carewe particularly wanted to avoid a quarrel so he produced a lie about an accident near the tube entrance.

"Anybody killed?" she asked moodily, setting out ashtrays.

"No. It wasn't a serious accident. Just blocked the road for a while." He crossed to the kitchen and poured himself a glass of fortified milk. "How many are coming tonight?"

"A dozen or so."

"Anybody I know?"

"Don't be funny, Will—you know them all."

"Does that mean May will be here with her latest pet ram?"

Athene set the last ashtray down with a loud double click. "You're the one who always criticizes people for being old-fashioned and conventional."

"Do I?" Carewe swallowed some milk. "Then I shouldn't, because I just can't get

used to seeing a succession of thirteen-year-old boys practically having it off with May in the middle of my living space."

"You want her yourself? She'd be more than willing."

"That's enough of that." He caught Athene as she was passing and pulled her close to him, discovering she was wearing no solid clothing beneath the light-necklace's shimmering brilliance. "Hey, what would you do if you had a power failure?"

"I dare say I'd manage to keep warm." She melted into him, suddenly.

"I'll bet you would." Carewe steadied his breathing. "I'm not going to let you get any older, Athene. It wouldn't be right."

"You're going to kill me!" Her voice was flippant, but he felt the lean body harden under his fingers.

"No—I've ordered our shots from Farma. I'll get a good mark-off too, seeing as how I work for the . . ."

Athene broke away from him. "Nothing has changed, Will. I'm not going to fix and watch you get older and older . . ."

"It's all right, darling—we both fix at the same time. Me first if you like."

"Oh!" Her brown eyes were clouded with doubt and he knew she was looking into the future, asking herself the questions whose answers they knew only too well. *What happens to love's sweet dream when the groom becomes impotent? How long can a union of souls survive atrophy of the testes?* "You've made up your mind?"

"Yes." He saw the color had left her face, and felt a pang of guilt over the clumsy way in which he had approached the subject. "But there's nothing to worry about—Farma has developed a new kind of biostat, and I'm going to be the first to use it."

"A new drug?"

"Yes—one which leaves the male

function unimpaired."

He was totally unprepared for the open-handed blow she swung, and it caught him full on the mouth. "What the . . .?"

"I told you what would happen the next time you tried anything like that." Athene stared at him in disgust, her left eye almost closed, the lid throbbing steadily. "Get away from me, Will."

Carewe tasted blood and knew his lips were swelling. "What do you think you're doing?"

"What did you think you were doing? You've done a few things, Will—there was the time you tried to trick me into fixing when I was on Illusogen, and the time you got my mother to come up here and work on me—but this is the clumsiest effort yet. Get it into your head that I don't fix until you do."

"But this isn't a trick! They really have . . ."

She interrupted him with one ugly word which hurt like another blow, and walked away. The beginnings of a bleak fury stirred in his stomach, clenching his muscles. "Athene. Is that what a one-to-one marriage is all about?"

"Yes!" Her voice was savage. "Believe it or not, Will, this is what it's all about. There's more to it than you walking about in bristles and codpiece saying, 'I'm sorry, girls, I'd like to do you a good turn but noblesse oblige forces me to preserve all my purity for my wife! You really enjoy playing a part, but . . .'"

"Go on," he prompted. "You're in the tube now—let it bullet."

"Our kind of marriage is supposed to be based on absolute trust, but you don't know the meaning of the word. You've put off fixing till you're right into the thrombosis-risk age because you're convinced I couldn't live without being screwed three or four times a week. In fact, you're staking your

life on it."

Carewe gaped. "That's the most slanted, emotional . . ."

"Am I right or wrong?"

He closed his mouth abruptly. Athene's outburst had been a melange of bad temper, fear and the antiquated notions about human relationships which were peculiarly her own, but all the things she had said—including the remarks about himself—were absolutely true. And in that instant, because he loved her, he hated her. He swallowed the rest of his milk in one gulp, hoping vaguely that the calcium it contained would help relax his nerves. It was no surprise to him that his anger continued to build up. Only Athene could have turned what ought to have been a supremely happy moment of their lives into yet another shattered evening, another of the bitter episodes which occurred so regularly. It was as though the interplay of their emotions set up an unstable field which had to reverse its polarity from time to time, or destroy them both.

"Listen," he said hopelessly, "we've got to talk about this."

"You can talk if you like, but I don't have to listen," Athene smiled sweetly. "Make yourself useful, darling. Set out some of the new self-chilling glasses I bought last week."

"The breakthrough was bound to come sometime. Think of the research effort that's been poured into it for two hundred years."

Athene nodded. "It was worth it, though. Just imagine—never having to mess around with ice cubes again."

"I'm talking about Farma's new drug," he said doggedly, depressingly aware that when Athene decided to be light-hearted and elusive she was at her most intractable. "It really exists, Athene."

"And bring out the *hors d'oeuvre*."

"You," he announced, "are one smug, stupid bitch."

"You're another." Athene pushed him towards the kitchen area. "The glasses please, Will."

"You want glasses?" Carewe found himself trembling as he gave in to a childish impulse. He strode to the kitchen, lifted one of the ice-cold self-chillers out of its insulating box and hurried back. Athene was thoughtfully surveying the arrangements. He pushed the glass through the shimmering colors which clothed her, hard against her midriff, and felt her muscles writhe in shock. She sprang back from him, the glass whirled along the floor and at that precise moment the first guest of the evening arrived.

"That looks fun," Hermione Snedden said from the doorway, "May I play too? Please, please, please?"

"It's strictly for married couples," Athene breathed, her eyes stabbing into Carewe's. "But come in and have a drink."

"I never need to be coaxed." There were no really fat immortals—the invariance of cell replication patterns saw to that—but Hermione was naturally majestic. She flowed across the room in crimson trailing silks, arms carried almost at shoulder height, and arrived at the bar. While inspecting the array of bottles, she took something from her purse and set it on the counter.

"Yes, have a drink, Hermione," Carewe said. He went behind the bar and almost groaned aloud when he saw the object she had put down was a solid-image sign projector. That meant they were going to play Excerpts. "Or are you just browsing?"

"I'm wearing red," she said archly, "so give me a red drink. Anything at all."

"Right." Carewe impassively selected an anonymous but dangerous-looking bottle, souvenir of a forgotten vacation, and poured a generous measure.



"What's been going on with you two, Will?" Hermione leaned across the counter.

"Who said anything was going on?"

"I can tell. That handsome face of yours is slightly granite-hewn tonight. A touch of the old Ozymandias."

He sighed—it had started already. Athene's friends tended to be interested in books, and that was why they liked playing Excerpts. He suspected they went out of their way to sprinkle their conversation with literary allusions when speaking to him. Carewe, who had never succeeded in finishing a book, had no idea what Ozymandias meant.

"I do the Ozymandias thing on purpose," he said. "It's something I'm trying out. Excuse me a moment." He went across to Athene. "Come into the kitchen and let's get ourselves straightened out before anybody else arrives."

"Will," she assured him, "there just isn't that much time in this or any other evening. Now stay out of my way." She walked away quickly before Carewe could speak. He stood alone in the kitchen while a slow, glacial resentment engulfed his soul and he could hear the rush of blood circulating in his own body. Athene had to be punished for the easy ruthlessness with which she turned their relationship into a weapon to cut him down anytime it pleased her. For doing that she had to be hurt—but how? An idea was stirring far back in his mind when he heard other guests arriving in the main living area. He forced himself to relax and strolled out to greet them, smiling with lips which still throbbed from Athene's blow.

Six people had arrived in a group which included May Rattray and a lumbering blond boy of about fourteen, who was introduced to Carewe as Vert. The women receded in a chattering swarm, making communal adjustments to their radiances, colors and perfumes, leaving Carewe

temporarily alone with Vert. The boy surveyed Carewe with a noticeable lack of interest.

"That's an unusual name you've got," Carewe said. "French for green, isn't it? Are your parents . . .?"

"It's Trev turned backwards," the boy interrupted. His fuzz-covered face was fleetingly truculent. "I was named Trev, but why should your mother be allowed to pick your name for you? A man should be allowed to pick out any name he wants."

"I agree—but instead of choosing any name you took the one your mother gave you and turned . . ." Carewe paused, realizing he was heading into keep psychological waters. "How about a drink, Vert?"

"I don't need liquor," Vert said. "Why don't you just go ahead and have one yourself."

"Thanks," Carewe said feelingly. He went to the bar and under the pretext of tidying it up stayed behind the counter, taking long swigs from a self-chiller full of Scotch. The prospect of an evening of Excerpts interspersed with conversations with Vert was one he could not face unaided. By the time the women returned he was halfway down his second tall glass of neat spirit, and was beginning to feel equal to the occasion. Equal to Athene too, for that matter—he had decided how to make her pay, and pay dearly. Four more guests arrived and he kept himself busy setting up drinks. Two of the new arrivals were male cools he knew to be not much older than himself—Bart Barton and Vic Navarro—and Carewe courted them assiduously, trying to create an anti-Excerpts faction. He had just got a reasonably healthy discussion going on the subject of bullet design when Athene took the center of the floor.

"I see we all have our projectors," she

said in an incongruous master-of-ceremonies voice, "so let's get on with the game. There's a mystery prize for the best flash of the evening, but remember we want strictly informal, happening-type Excerpts—anybody found quoting published sources will have to pay a forfeit." There was a low cheer and the dhome swirled with fragmented colors as the guests began adjusting their projectors. Glowing, apparently solid letters and words swarmed in the air. Carewe groaned and sat down behind the bar as Athene levelled her own projector.

"I'll go first," she announced, "just to get things moving." She activated the little instrument and brilliant green lettering appeared, hovering a few paces in front of her. WHAT'S THE POINT IN SPEAKING FRENCH IF EVERYBODY KNOWS WHAT YOU'RE SAYING? Carewe stared suspiciously at the guests, most of whom were giving appreciative laughs, then examined the words again. Their significance still escaped him. Athene had more than once explained that Excerpts was the art of taking a phrase or sentence out of mundane context of conversation or correspondence, presenting it as a literary entity in its own right, and thereby creating a fantastic counter-context in the mind of the reader. Verbal holography, she had called it, completing his bafflement. Since the game had become fashionable a year earlier he had done his best to avoid it.

"Very good, Athene," a woman's voice said in the dimness, "but how about this?" New words appeared in the air, hovering near the roof of the dhome: ALL I KNOW IS WHAT I READ IN THE ENCYCLOPEDIAS.

Two more signs flashed up almost immediately, one in red, the other in topaz: WASN'T THAT TOUGH ABOUT ROMEO AND JULIET? and WE KEEP

THAT ROOM BRICKED UP SPECIALLY FOR YOU.

Carewe regarded them stoically over the rim of his glass, then decided to fight back. He took a full bottle of liquor in each hand and moved around the guests filling glasses to the brim and urging people to drink up. Within a few minutes the quantity of neat spirit he had taken combined with his tiredness, hunger and the flashing, images of words to project him into a world of spatial incoherence. RADIUS IS THE ONLY WORD THAT MEANS RADIUS, a shimmering sign told him as he sat down amid a vaguely seen group on the floor. OFFHAND, another one asked him, WOULD YOU SAY I HAVE ANY RESEMBLANCE TO AN OTTER? He took another long drink and tried to tune in on a low conversation close by.

". . . most of my wives want me to quit work and live at home on the dowries. They say my working all day makes *them* tired."

"Sounds like a sort of couvade in reverse, with them pretending to have labour pains."

"Yeah, but I'm waiting till they break out in psychosomatic pay packets."

Carewe blocked the conversation out again and looked around to see what Athene was doing. AIN'T IT HELL? an electric blue sign demanded, HERE IT IS CHRISTMAS AND US OUT HERE CHASING A STAR. He saw Athene sitting alone, silhouetted in the light from the kitchen area. She was laughing delightedly at an Excerpt, apparently undisturbed by the scene they had had earlier. All right, he thought, if that's the way . . . A sign got in the way, scrambling his mind. PEOPLE SHOULDN'T HAVE TO VISIT PEOPLE AT CHRISTMAS—PEOPLE SHOULD VISIT THEM. He closed his eyes but jerked them open at an extra-loud shout of laughter. THINK HOW MUCH SOONER

THE WEST WOULD HAVE BEEN WON  
IF WAGON WHEELS HAD GONE  
ROUND THE RIGHT WAY.

"Hold on," Carewe said irritably to someone near him. "What does that mean?"

"It's a reference to the movies we see at the Historical . . . Oh, you aren't in that, are you?" Vic Navarro said.

"No."

"Well, in old-style movies the action of the camera shutter often caused a strobe effect so that the spokes of wagon wheels seemed to be turning the wrong way."

"And that's what everybody's laughing at?"

"Will, old son." Navarro clapped him on the shoulder. "Have another drink."

Carewe did as he was told and beyond the private, friendly universe in his glass the colored signs shimmered and swam and swooped until they ran together in his consciousness . . . FILL ME IN ON GOD . . . WELL HERE I GO FOR MY RATION OF BOOT POLISH . . . ARE YOU TRYING TO MAKE A NONENTITY OUT OF ME? . . . THAT'S THE ONE I SHOT THE SPIDER WITH . . . I DON'T MIND BEING POLITE IF IT SAVES ME MONEY . . . "As far as I'm concerned," somebody was saying, "immortality came too late because we have no pioneers like the Wrights who can be preserved beyond their natural spans to appreciate what they started . . ." I'M IN A SYRUP-WADING SEQUENCE AT THE MOMENT . . . HE PROBABLY DIED IN SELF-DEFENCE . . . DEATH IS JUST NATURE'S WAY OF TELLING US TO SLOW DOWN . . .

"Just a minute!" Carewe snorted painfully into his drink. "That last one is funny. Doesn't that disqualify it or something?"

"Good old Will," Navarro whispered.

"If you're allowed to put up funny ones, I'm going to play too." Carewe said recklessly, looking around for a projector. May Rattray and Vert were grappling determinedly behind him, obviously having lost interest in the game. Carewe took May's projector, studied the keyboard for a moment and began composing an Excerpt. He floated the words across the smoky air of the dhrome: DEATH STOPS BAD BREATH INSTANTLY.

"That's too much like the last one," Hermione Snedden said, looming redly on his left. "Besides, you just made it up."

"I didn't!" Carewe was triumphant. "I heard it on a tridi show."

"That rules it out then."

"Don't waste your breath, Hermione," Athene called. "Will doesn't enjoy a game unless he is breaking the rules."

"Thank you, my darling," Carewe said with an exaggerated salaam in her direction. *You and I play another game*, he thought savagely, *and I'm going to break the rules in that too*.

In the morning, with the defeated ghost of a hangover trembling along his nerves, he felt ashamed of his performance at Athene's party—but his determination to hurt her had not lessened.

### CHAPTER THREE

THE TWO hypodermic guns were in a black case, nested in traditional purple velvet, and one of them had red adhesive tape wrapped around the barrel. Hyron Barenboim topped the marked cylinder with a finely manicured finger.

"This is yours, Willy," he said soberly. "We put the shot in an absolutely standard

gun so there'd be no hint of anything unusual for anyone to pick up afterwards. Take the tape off when you've used it."

Carewe nodded. "I see." He closed the case with a snap and slipped it into his pouch.

"Well, that's that. Now, you're going to be away in the mountains for three days on your . . . ah . . . second honeymoon, and I've arranged things so that when you get back there'll be a request from the chief of the biopoiesis lab for you to check some procedures at Randal's Creek in person. I'd say we have everything neatly tied up, wouldn't you?" Barenboim leaned back in the big chair and his stomach rounded upwards through the pleats of his blouse. His hairless face, behind two centuries of composure, was smooth and inscrutable as that of a ceramic Buddha.

"It all looks good to me, Hy."

"It ought to—you're a very lucky boy, Willy. What did your wife think when you told her?"

"She just couldn't believe it." Carewe laughed, making it sound as natural as possible. It was four days since he had tried breaking the news to Athene and from that moment they had both been trapped in a fast-hardening amber of bitterness, unable to move closer to each other, unable to communicate . . . His own attitude was childish, Carewe knew, but he wanted to punish Athene for having bared his soul, to make her pay for the crime of knowing him better than he knew himself. And, by the inexorable illogic of marital in-fighting, the only way he should do it was by proving her wrong—even though she was right. He was not going to tell Athene about the development of E.80, knowing he could later justify his action to her on grounds of the need for utter secrecy.

"All right, Willy. I'm leaving everything to you now—you'd better go over to your

office and not communicate with me again for the time being. Either Manny or I will talk to you when you get back."

Carewe stood up. "I haven't thanked you . . ."

"There's no need, Willy, no need at all. Have a good trip." Barenboim was still smiling when the door of the suite slid across to shut him from view. Carewe went back to his office and locked the door. He sat down at his desk, took the black case from his pouch, set it in front of him and began inspecting the hinges. They were designed to allow the lid to spring open a full right angle from the base, but by carefully bending the alloy around them with a screwdriver he succeeded in altering their geometry so that the lid opened through a smaller angle. Satisfied with his work, he stripped the red tape from the gun containing the E.80 and placed it in the outermost niche.

The blue waters of Lake Orkney vapoured gently in the afternoon sunshine. Stepping down from the vertijet, Carewe breathed deeply as he surveyed the snowy slopes, the toy-like pines and the bright pastel curvatures of the Orkney Regal hotel in the distance. Because of the cold front affecting most of the western states, the jet's address system had announced proudly, the resort manager had gone to the expense of calling in the Weather Control Bureau to set up a lenticular field over the lake. Looking upwards into the empty blueness—which, in spite of the absence of spatial referents, gave the impression of curious distortion—Carewe felt as though he was inside an antique glass snowstorm ornament.

He turned to Athene as they walked into the airport building among a group of passengers. "What do they call those old glass balls with miniature snowflakes in

them?"

"I don't know if they have a special name. Olga Hickey has several in her collection and she calls them snow motiles, but I think motile is an adjective." Athene, too, was looking around the valley with interest and her tones were the most relaxed he had heard her use since the night they had quarrelled. Her color was high and she was wearing a new cerise coat which, he suddenly realised, was similar to the one she had worn on their honeymoon ten years earlier. Was this a signal?

"I managed to get the same room," he said impulsively, discarding his intention to let it come as a later surprise.

Her eyebrows arched slightly. "But how did you remember? Oh, I suppose the hotel was able to look up the room number for you."

"No. I remembered it myself."

"Really?"

"The way I remember everything about those two weeks." He caught Athene's arm and turned her to face him. Several women brushed past them impatiently.

"Oh, Will," she breathed. "I'm sorry. Those things I said . . ."

Her words were food and drink to him. "Forget it," he replied, gorging himself. "Everything you said was true, anyway."

"But I had no right."

"You had. We're really married, you and I—remember?"

She came to him with open mouth and he sealed it with his own, breathing her breath, while other passengers swept past them. Athene was the first to break free, but she held his arm as they moved into the building amid watchful, appraising faces. There was not another funk in sight, he discovered. The scattering of people in the arrivals area were either cools, who watched with practised disinterest, or women with tautly amused eyes.

"What's happened to me?" he whispered. "I'm behaving like a teen-age ram."

"It's all right, darling."

"Yeah, but what an exhibition! Let's get to the hotel." During the ride down to the lake shore on the old-style cable car Carewe wondered if it was possible for a man of his age to be overcome with sheer contentment. This was why one-to-one marriages had survived and still had meaning, even at the end of the 22nd Century. The simple fact, often heard but now fully understood for the first time, was that a relationship could yield only as much as one put into it. He sucked sunlight into his lungs, and allowed his hand to trace the rectangular outline of the small flat case in his pouch, as he tried to come to terms with the realities of immortality. One shot each and—with care—Athene and he need not die. He searched within himself for some trace of the exultation which ought to accompany the thought, but there was a strange blankness. It was all a question of relativity. Born into the starving India of two centuries earlier he would have accepted a life expectancy of twenty-seven years, and been overjoyed if some benign power had unexpectedly guaranteed him seventy. Born into the complacent bitch society of the 22nd Century he regarded indefinitely prolonged life as a birthright, a social benefit different only in degree to something like industrial injury payments. It was said that the race's creative genius had stultified—certainly no intellectual giants had been nurtured on lavish allotments of time—but perhaps there had also been an attenuation of the emotions, the colors of life running thin in the ichors of eternity.

He glanced sideways at Athene and renewed his reasons for wanting to live forever. At thirty-six she was on a peak of superb good health, a peak which the

biostats would convert to an endless plateau. Sitting gazing through the cable car's windows with rapt attention, she absorbed all his senses until there seemed to be an entire universe called Athene. Once, when she smiled at some secret memory, a chance altitude of her head showed him the inner surfaces of her teeth, and they were translucent in the sunlight. He noted, catalogued and filed the discovery, like an observer of the outer universe recording the appearance of a nova. It came to him that Athene looked her age, looked thirty-six, yet she also seemed exactly as she had been when they were married ten years earlier—which was impossible. What then were the precise physical changes? Striving to be clinical, he noted a slight thinning of the cheeks, the tendency for the down on Athene's upper lip to turn into hair, the beginnings of a fatty deposit on the inside of the upper eyelid which in time would develop a yellowish tinge. Abruptly Carewe reached a decision. His plan had been that they would take the shots on the last evening of their stay at Lake Orkney, but the delay suddenly seemed intolerable. He could not permit Athene to age by even one more hour.

"Stop it, Will," she said.

"Stop what?"

"Staring at me like that in public." Her cheeks reddened slightly.

"I don't mind if people see me."

"Neither do I, but it does something to me—so stop it."

"You're the boss," he said in pretended huffiness. She took his hand and held it during the rest of the swaying, jolting ride down to the lakeside. He was briefly tempted to sacrifice his own self-gratification and the perfection of the moment by making a fresh attempt to convince her of the reality of E.80 and all it meant, but the feeling passed. This vacation

was going to be the best of their lives, and he was still hungry for the Athene who would exist, albeit ever so briefly, when she believed he had proved his faith in the non-physical aspect of their love. The game would have to go on until they were on the point of returning to Three Springs.

The boisterous air from the lake invaded Carewe's lungs as he stepped down from the car and helped Athene to alight. They elected to walk the short distance to the hotel, sending their baggage ahead on the guest pick-up. Athene talked easily and happily during the walk, but Carewe's mind was wholly occupied, filled with a sense of imminence, now the crucial event was so close. Supposing E.80 was not all that Barenboim claimed it to be? Supposing he really was about to tie off? He went through the formalities of checking in without being aware of what he was doing, and made two mistakes in following the direction arrows which—activated by the nearness of his key—illuminated the way to their suite. Ten minutes later, in the still familiar bedroom with its view of diamond-sewn waters, he took the hypodermic case out of his pouch and opened it. Athene was hanging her clothes in a closet, but she heard the faint sound and turned to face him. Shadows of a million tomorrows played across her face.

"You don't have to," she said, her eyes absorbing the fact that case held two identical guns with their seals intact.

"This is the time, Athene. The best time."

"You're certain, Will?" She hesitated. "We have no children."

"We don't need them." He held the case out to her. "Besides, I took a pill last week and it might be months before I could be a father again—and I don't want to wait months. This is the time. Right now."

She nodded sadly and began to undress. Sensing the rightness of it, Carewe set the

case aside and took off his own clothes. He kissed Athene once, almost coldly, and offered her the case again. She picked the outermost gun, as he had known she would, and broke its seal. He held out his wrist. She pressed the gun to the blue deltas which glowed beneath his skin. There was a sharp hiss and the tiny cloud of vapour passing into his tissues produced a fleeting sensation of coldness. He took the other gun and fired its charge into Athene's wrist.

*She's safe*, he thought later as they lay entwined on the satin-cool divan, *But how can I tell her I was cheating?*

## CHAPTER FOUR

**H**IS BODY was made of glass—in the dreams—and he was precipitated from one dangerous sequence of events to another; serving with Fauve teams in Africa or Southern Asia, sweating it out on the fourth Venus expedition, trawling for manganese nodules on the bed of the Pacific. Many kinds of destruction threatened his fragile limbs and torso—bullets, bombs, falls, the blind thrust of massive crankshafts which could grind him to sparkling dust . . .

And Carewe would wake up feeling cold and lonely, unable to find reassurance in the nearness of his wife. He understood the significance of the dreams, but it made them no less terrible. Before the development of biostats, a tutor had once told him, a population of human beings and a population of glass figurines had entirely different kinds of life expectancy graphs. In the case of the figurines a fraction would get broken every year, until gradually none was left; with the humans, most of them would be around until their late fifties—and then the population would rapidly disappear.

The advent of biostatic drugs meant that a human could look forward to an indefinitely prolonged life, but not to careless immortality. A being which had the potential for indefinitely prolonged life was "immortal"—but smash that being into a mountainside at thrice the speed of sound and he is dead. *All we have done*, the tutor concluded, *is to join the ranks of the figurines.*

The magnitude of the responsibility for preserving his own life dismayed Carewe. To die at the age of forty in an airplane or high-speed automobile crash would be bad if it meant losing thirty years of life, but when a possible thousand years were involved it was unthinkable. Standing looking out at the darkness of the lake, he achieved a little more insight into what the contemporary philosopher Osman called "the bitch society", meaning a world population in which the historic male traits had effectively vanished. War had been abolished, if one discounted the limited operations of the Fauve teams, but more than two centuries after the first Moon landing Mars and Venus were virtually unexplored. The small number of funkies prepared to undertake such ventures received little backing from administrations of cools—and already Carewe could appreciate why, even though he had not been uncoupled from the biological flywheel of masculinity. *The future weighs heavily*, he thought. *That's all it is.*

And the problems of the immediate future were the most pressing. Dawn was overpainting the fainter stars, which meant that in a few hours they would be on their way back to Three Springs—and he had not been able to tell Athene the truth about his E.80 shot. The three days at Lake Orkney had been the best in ten years of marriage. He and Athene were matched opposing mirrors, and by his apparent act of faith in

her he had created a lustrous image of himself which was blazing back and forth between them. (*Love, Osman had said, is approval of the other partner's good taste.*) Now he was faced with the prospect of turning Athene's mirror aside, deflecting the precious fire into a cold void from which—by the laws of emotional thermodynamics—it could never be recovered.

There was also a purely physical aspect to his dilemma. Her belief that he had severed the sexual link seemed to have had a profound aphrodisiac effect on Athene. As if trying permanently to burn out her own desires she had, for three days, engaged him in an almost continual bout of sexual activity, refusing even to fall asleep unless he was in her as they nested, her buttocks to his groin, like spoons. But three days was about the maximum period for which Carewe should continue to display masculinity. The post-biostatic production of androgens was known to last that long in some cases, but within a matter of hours he would have to simulate loss of sexuality or tell Athene the whole story.

To make matters worse, his own attitude kept fluctuating from minute to minute, depriving him of firm ground on which to make a stand. At times there appeared to be no problem at all—Athene would certainly be overjoyed to learn they were the first couple in the world to have been granted endless life *and* endless love; but at other times he accepted the facts of the enclosed universe which was his marriage. In that involute continuum getting something for nothing was not impossible, merely unforgivable. He had deliberately allowed Athene to believe in his faith in the essential, asexual component of their love, he had traded on the deception, used the emotional funds which had been forthcoming. Now it was time to

confess—and he was afraid.

Tired and depressed in the grainy light of dawn, he decided to take the only avenue of escape available to him. On returning to work he was scheduled to fly to Randal's Creek for a medical check on the efficacy of E.80, and there was a faint possibility that the drug was a failure. He felt perfectly normal but—incredibly, the idea was almost attractive—perhaps he really had tied off, perhaps he had genuinely cooled it. With that possibility in mind, the logical thing to do was to remain silent until Farma's physiologists made a definite pronouncement.

Shivering slightly, possibly with relief, Carewe got back into bed.

Strictly speaking there had been no need for it, but in the morning he had adjusted the cutters on his magnetic razor and shaved off his five-millimetre bristles. Now, as he boarded the southbound vertijet flight, his chin and upper lip felt naked and exposed. The flight systems manager, who would once have been known as the pilot, was a symphony of honey and tan in her tailored uniform. Carewe smiled tentatively at her as he paused to hold his credisk against the scanner in the forward hatch. She gave him an impersonal smile in return, and already her eyes were on the passengers behind him.

He sat down, stroking the skin of his face, and staring disconsolately through a window until the aircraft made its tiny run and take-off. It rose vertically for over a thousand metres until it had cleared the insubstantial walls of the noise abatement screenfield, then darted southwards parallel with the irregular white peaks of the Rockies. Far below, the evenly spaced townships of the western states glittered in their ganglions of roads and tubeways, giving Carewe a welcome sense of



reassurance and belonging.

The world population was no smaller than at the end of the Twentieth Century, but it was no larger either, and there had been two centuries in which to shake down and find optimum solutions to the problems. Life in a society of glass figurines tended to be both dull and safe, but with the personal responsibility of immortality riding on one's shoulders safety was the prime consideration. No sane person ever took a risk, knowingly. The aircraft in which Carewe was traveling to Randal's Creek had three entirely independent means of staying aloft, but he was taut with apprehension.

*What, he wondered, would I do if there was even a slight crash and I had to look at a dead body?*

The Randal's Creek laboratory was eighty kilometres south of Pueblo, discreetly tucked into the juncture of two mountain valleys. It was served by a fused-earth road which, although good enough for roadcars, was unsuitable for bullets because of their higher centres of gravity. Most of the staff of eighty lived in Pueblo and its environs, and traveled on the shuttle copter operated by Farma.

Carewe reached the Pueblo field in mid-morning and found there were only three other men, all cools, sharing the copter's large saloon with him. Remembering Barenboim's injunction to keep up appearances of normality, he made a point of speaking to the others during the brief flight. By asking several questions about the location of the biopoiesis lab and admin block he managed to get across the information that he was an accountant on his way to Randal's Creek to examine costing procedures. The other men had apparent ages in the early thirties, and something in their manner suggested to Carewe their real ages were not much greater. They lacked Barenboim's glacial

implacability. It occurred to Carewe that when the news about E.80 became public the old-style immortals, especially those who had newly tied off, were likely to feel resentments. On the other hand, some aspects of the cool philosophy might be vindicated as never before. Even in prebiostatic ages a small percentage of men had sufficient time to tire of the basic reproductive procedures—what strange byways might such a person be exploring in his two hundredth year of undiminished potency? The disturbing idea that asexual immortality could have its advantages was stirring yet again in Carewe's mind as the copter crossed the brow of a pine-clad hill and eased itself downwards to the silvery domes of the Farma laboratories.

He hurried across to the main entrance, noting that the air was appreciably warmer in Colorado than further north in the Three Springs area, and stepped into one of a line of booths which spanned the reception area. There was a barely perceptible pause while the company computer, a thousand kilometres away, checked his identity, approved of his presence and used a microwave link to open the booth's inner door, allowing him to enter the building's main concourse.

"Mr. Barenboim wishes you to join him in his office on Level D as soon as you have paid your compliments to Mr. Abercrombie, the divisional accountant," the machine told him.

"Understood," he said, mildly surprised. Barenboim rarely visited Randal's Creek, he knew, but then E.80 was the most important project that Farma or any other drug manufacturer had ever undertaken. He found the divisional accountant's office and spent almost an hour talking shop and pinning down the exact nature of the accounting difficulties he was required to straighten out. It soon became apparent

that the problem was less one of procedure than of relationships between the department and Barenboim. Abercrombie—a plump cool with watchful, watery eyes—seemed well aware of the situation and he treated Carewe with reserve, as though he could be dealing with Barenboim's axeman. The reaction amused Carewe, who found it the first foretaste of what it would be like to have top executive status and power, but at the same time it made him feel slightly apologetic. He got away from Abercrombie as quickly as possible and made his way to Level D.

Barenboim's suite was smaller and slightly less luxurious than the one at Farma's headquarters. The inner door's round black eye blinked its recognition of Carewe and the polished wood slid aside. He went through into the familiar aroma of coffee with which Barenboim was always surrounded when he was working.

"Willy, Willy!" Barenboim, who had been seated at a free-form blue-and-red desk, crossed the office and shook Carewe's hand. His eyes flashed from the depths of their bony grottoes. "It's good to see you."

"Nice to see you again, Hy."

"This is marvelous," Barenboim said as he returned to his seat, waving Carewe into another.

"Ah . . . yes," It isn't all *that* marvelous, Carewe thought, I've only been away a few days. It occurred to him, for the first time, that Barenboim was making a real effort to behave like a funkier, or, at least, to act un-cool; and he was reminded that their relationship was entirely artificial, based on nothing more than circumstance and expediency.

"Well, how did it go? Good trip?"

"Very pleasant—Lake Orkney is beautiful this time of the year."

Barenboim's face was momentarily impatient. "I wasn't inquiring about the

scenery. How's your libido? Still got it?"

"You bet." Carewe laughed. "And then some."

"That's fine. I see you've shaved."

"I thought it would be best."

"Probably, but you'd better use a depilatory instead. Your chin has a distinct blue tinge which makes you look less cool than ever."

Carewe felt a pang of pleasure, but was careful to conceal it. *That bitch who flies the plane*, he thought. *She must have been blind*. "I'll pick up one today," he said.

"No you don't, young Willy. There must be no hint to anybody anywhere that you have used anything but an absolutely standard biostat. How would it look if a supposed cool was seen buying a depilatory?"

"Sorry."

"It's all right, Willy—but this is the kind of thing we have to watch out for. I'll give you something before you leave." Barenboim inspected the puffy, floury skin of his hands. "Now take your clothes off."

"Huh?"

Barenboim smoothed each of his eyebrows delicately with a single fingertip. "We need tissue samples from various sites on your body for checks on the all replications function and, of course, it will be necessary to carry out a sperm count."

"I see—but I thought the checks would be done by one of your biochemists."

"Making the results available to the entire laboratory staff? No, thanks. Manny Pleeth is a better practical biochemist than I, but he's busy up north, so I'll check you out myself. Don't worry about it, Willy—the door's locked and I do have some years of experience."

"Of course, Hy. I wasn't thinking." Carewe stood up and, with an uneasy suspicion that something was beginning to go terribly wrong, removed his clothes.

He had been waiting at the Three Springs airport for over thirty minutes before it occurred to him that Athene might not be coming to pick him up. It was mid-afternoon and the passenger building was almost deserted. Carewe went into a communication booth, stated his home number and stared impatiently at the screen, waiting for Athene to answer. It was the first time in ten years of marriage that she had failed to meet him on his return from a trip. But, he reassured himself, it was pure coincidence that it was also the first time that, as far as Athene knew, he was returning as a cool. The screen selected colors from its electronic palette and assembled them into a two-dimensional picture of his wife's face.

"Hello, Athene." He waited for her reaction to seeing him.

"Will," she said listlessly.

"I've been waiting at the airport for over half an hour—I thought you were picking me up?"

"I forgot."

"Oh." It may have been an effect of the two-dimensional image, but for a moment Athene's face seemed to be that of a hostile stranger. "Well, I'm here now reminding you. Are you coming for me or not?"

She shrugged. "Whatever you like."

"If it's not too much trouble for you," Carewe said distantly, "I'll rent a bullet here at the airport."

"All right. See you." The image dissolved, became a swarm of colored fireflies which fled into gray infinities. Carewe touched the smoothness of his chin and a great surge of emotion boiled up through him. It was a few seconds before he was able to identify it as . . . sadness. Athene was perhaps the only person he knew who was completely honest in all her dealings with people, who without embarrassment or compunction would



reverse a statement she had made perhaps minutes earlier provided the words reflected a change in her inner being. He had known her buy an expensive vase and smash it the same day; she would persuade him to vacation in a resort of her choice and on the minute of arriving, if it turned out not what she expected, would refuse to stay. And on another level, would she work on Carewe's feeling for years, swearing that her love for him would be unchanged by his going cool—and then, within a week, treat him with open contempt?

The answer, he knew, was yes.

If Athene discovered that Carewe minus sex equalled nothing there would be no dissimulation on her part. Instantly, with an appearance of cruel ease, she would come right out with it, and begin making other arrangements. In all his thoughts about going cool he had used the figure of one year as a likely upper limit for the continuance of the marriage, but he had always known that the term might be a month or a week. *I've got to tell her*, he screamed inwardly. *I've got to get back there right now and tell my wife the truth about E.80.*

Carewe shouldered his way out of the booth and ran towards the vehicle pool. All the way home, as tons of air pressure hurled him along the tube, he rehearsed what he was going to say. Barenboim's tests had confirmed that E.80 was successful, that he was both immortal and male. So his marriage with Athene was going to have a fresh start and no foreseeable end. So he was going to tell her the truth, demonstrate the truth with all the force of his loins. *We're going to have children.* The thought stilled the trembling of his fingers. *As soon as the effects of my last pill wear off, we're going to have children . . .*

The dhome's windows were opaqued black as Carewe parked his rented bullet on

the surrounding apron. He let himself in through the main door and found the interior was in near-darkness, the only light coming from star shapes projected on the roof. The partitions had all been retracted and at first he thought Athene had gone out, then he saw her lying on a couch staring upwards at the wheeling constellations. He crossed to the environment control console and cleared the windows, filling the dhome with sunlight.

"I'm back," he announced unnecessarily. "I got here as quickly as I could."

Athene did not move. "That's really something, Will—being neutered hasn't slowed you down at all. That's great." The words were delivered with a cold savagery which appalled Carewe.

"I've got to talk to you, Athene—there's something you don't know."

"There's something you don't know, lover. Catch!" She threw a small glittering object towards him and he snatched it out of the air. It was a silver disc with a red spot in the center of one face.

"I don't get it," he said slowly. "This looks like a pregnancy telltale."

"That's exactly what it is. Getting neutered hasn't affected your eyesight either."

"But I still don't see . . . Whose is it?"

"It's mine, of course." Athene sat up and faced him, her left eyelid drooping. "I licked it this morning and it turned that pretty color."

"You aren't making any sense. You couldn't be pregnant because it's less than a month since I took my last pill and . . ." Carewe stopped speaking as a cold perspiration prickled out on his forehead.

"Now you've got it." Athene's eye was almost closed and her face was a priestess-mask of calm fury. "You were right about me all along, Will. It seems I just can't live without regular ess-blank-ex—you hadn't

been away two days before I had another man in your bed. Or should I say, another man had *me* in your bed?"

"I don't believe you," he said weakly. "You're telling me a lie, Athene."

"Really? Watch this." She picked up another silver disk from a side table and, with the air of a magician performing a trick, placed it on her tongue. Her eyes were filled with cool amusement as she withdrew the telltale and held it out for him to see. The side which had been in contact with her tongue had a deep red spot on the center. "Now what do you say?"

"Here's what I say." The surroundings of the room receded to stellar distances as he listened to his own lifeless mouth telling Athene what he thought of her, using every obscene word he could muster, until they became meaningless with repetition.

Athene smiled mockingly. "A good performance, Will—but verbal rape is no substitute for the real thing."

Carewe inspected his hands. Each finger was making stiff little movements on its own, independent of the others. "Who was it?"

"Why?"

"I want to know. Who is the father?"

"What are you planning to do—make him take it back?"

"Tell me right now." Carewe swallowed noisily. "You'd better tell me right now."

"You bore me, Will," Athene closed her eyes. "Please go away."

"All right," he said, after an arctic eon had crept by. "I'll go away—because if I don't I might kill you." Even to his own ears the words sounded futile and ineffectual.

Athene was still lying on the couch, smiling peacefully, as he walked back out to his bullet and drove away.

"MY WIFE is pregnant," Carewe said carefully and took a sip of his coffee, watching to see what reaction his words would inspire.

Barenboim and Pleeth formed a little tableau behind the blue-and-red desk, a recreation of the morning on which Carewe had first visited the president's suite. The older man's hands were pressed together to form a steeple over which his deep-set eyes stared thoughtfully; Pleeth bounded complacently on his invisible QueenVic chair, his pink-stained eyes gleaming and his mouth forming a tight, up-curved arc of satisfaction.

"Are you certain about this, Willy?" Barenboim's voice was perfectly controlled.

"Positive. She checked with two telltales."

"And is the pregnancy a new one?"

"Within the last week," Carewe spoke steadily, determined not to reveal any of his inner feelings, to Barenboim's two-centuries-old eyes.

"Well, I would say this is it then—the ultimate proof that E.80 is everything we hoped it was. What do you say, Manny?"

Pleeth stroked the gold cigar-like ornament on his chest and the radius of his mouth tightened in triumph. "Agreed, agreed," he said. "This is what we've been waiting for." The two men eyed each other in satisfaction, communicating without words in a way that only cools with many years behind them could do.

"What happens now?" Carewe intruded.

"A public announcement?"

"No!" Barenboim leaned across the desk.

"Not at this stage. Secrecy is more important than ever until we get the formula for E.80 covered by patent."

"I see."

"Also—I hope you won't mind my saying this, Willy—it would be advisable to wait and see that the pregnancy goes the full term and that the child is perfect."

"No, I don't mind you saying that, Hy."

"Good boy." Barenboim leaned back in his chair. "Manny! What are we thinking of? Here we are discussing nothing but the business aspects, and completely forgetting to congratulate young Willy on his achievement."

Pleeth beamed happily, but remained silent, the scrubbed pink of his boyish face deepening.

Carewe took a deep breath. "I don't want any congratulations, Hy. As a matter of fact Athene and I have split up. For a trial period, that is."

"Oh?" Barenboim's eyebrows drew together in a calculated display of concern. "This seems an odd time to separate."

"It's been brewing up for a year or more," Carewe lied, remembering how he had stormed out of his dhorne within seconds of Athene's verbal blow. "And with a baby coming we decided this might be our last chance, our best chance, to find out exactly where we stand with each other. I hope it won't hurt your plans."

"Not at all, Willy. But what are you planning to do now?"

"Well, that's what I wanted to talk to you about. I know I'm important to the E.80 trials—a billion-dollar guinea pig, Manny called me—but I thought I'd like to go abroad for a while."

Barenboim looked unperturbed. "That can be arranged easily enough. Farma has offices in quite a few cities across the world—but I don't need to tell you that, Willy. Where were you thinking of?"

"I wasn't thinking of a city posting." Carewe shifted uneasily on his chair. "Does Farma still have field contracts with the Fauve teams?"

Barenboim glanced at Pleeth before he replied. "We do. Not as many as we used to, but we still supply and administer biostats in quite a few theaters."

"That's what I want to do, Hy." Carewe spoke quickly, anxious to state his case before he was interrupted. "I know that under the circumstances I have no right to place myself in physical danger—but I've got this urge to get right out of things for a while. I'd like to volunteer for work on a Fauve team." He waited for Barenboim's refusal but, incredibly, the president was nodding thoughtfully, the suspicion of a smile touching his lips.

"So you want to cool a few Fauves? They sometimes kill themselves, you know, rather than submit—think you could face that?"

"I think so."

"As you say, Willy, there's a certain amount of risk from the organization's point of view," Barenboim again glanced at Pleeth. "But on the other hand, it would get you off stage for a few months—which may not be a bad idea at this time. Once we begin filing patent applications the security situation is going to get even trickier. What do you think, Manny?"

Pleeth considered his unguessable triumphs. "There's a lot in that, but I wonder if young Willy knows exactly what he's letting himself in for. Perhaps the worst possible violation of a human being is to force immortality on him against his will."

"Nonsense!" Barenboim's voice had a harsh edge to it. "I'm convinced Willy can face up to a few months on a Fauve team. Take it in your stride, won't you, boy?"

Carewe hesitated, then he remembered Athene and knew he had to travel far and fast in case he should be weak enough or crazy enough to forgive her. "I can face it," he said bitterly.

An hour later he was riding the dropshaft

down to ground level with an official transfer to the Farma contingent of a Fauve team in his pouch. It was a few minutes after quitting time and the building's reception area was still crowded. Carewe looked curiously at the passing technicians and office workers, wondering why the fact that he was going to Africa in the morning should make everybody else look slightly strange. *This isn't real*, he thought, *I got out too easily . . .*

"Ho there, Willy," a voice said close to his ear. "What's this I hear about you breaking out of the nursery? It isn't true, is it? Tell me it isn't true."

Carewe turned and saw the bristled face of Ron Ritchie, a tall blond funkier in his early twenties, who was a junior sales coordinator in the biopoiesis division.

"It's true enough," he said reluctantly. "I got restless."

Ritchie twitched his nose and smiled. "I'm proud of you, boy. Other guys your age who have just tied off start reading philosophy, but you kick up your heels and head for Brazil."

"Africa."

"I knew it was somewhere like that. Let's have a drink and a drag to mark the occasion."

"I . . ." Carewe hesitated, for the first time truly understanding that he had no wife and no home around which to build his evening. "I've been drinking too much lately—thought of cutting down on it."

"Spheres to that." Ritchie put his arm across Carewe's shoulders. "Do you realize I might never see you again? That's bound to be worth a glass or two to one of us."

"I guess it is." Carewe had always considered he had nothing in common with Ritchie, but the alternative was killing the evening alone. Earlier he had half-expected Barenboim to invite him to dinner or to spend a few hours discussing his severance

from the office—after all, he was an important part of the biggest thing Farma had ever done—but the formalities had been completed with magical swiftness, and Barenboim and Pleeth had hurried away to keep an appointment. Going to Africa had been entirely his own idea, but somehow he felt exactly as though an unknown person had put the skids under him. "Now you mention it, I could use a drink."

"Good man." Ritchie rubbed his hands together and showed his narrow dental arch in a grin. "Where'll we go?"

"The Beaumont," Carewe said, thinking of its tobacco-colored walls, deep chairs and ten-year-old whiskey.

"Double spheres to that. Come on—I'll drive you somewhere worth while." Ritchie caught the end of his own codpiece, aimed it theatrically at the doorway and hurried after it as though being drawn onwards by an invisible force. His thin but muscular legs took him across the reception area in a few strides, to the accompaniment of laughter from a group of girls who were emerging from a side corridor. Marianne Toner was among them.

"I haven't had a chance to tell you, Marianne," Carewe said. "This is my last day here . . ."

"Mine too," she interrupted, her eyes fixed on the disappearing figure of Ritchie. "Good-bye, Willy."

She turned away disinterestedly and Carewe's hand flew to the smooth bristle-free skin of his face. He stared after her for a few seconds, outraged, then hurried to the door in pursuit of Ritchie. The younger man lived close by in Three Springs and so drove a low-slung roadcar which Carewe found strange in comparison to the comfort of his more staid bullet. He slumped in the passenger seat beside Ritchie and stared moodily through the side window during the short ride into town. Marianne Toner

had shocked him with her sudden inability to see him as a human being. The question was—would he feel so annoyed if he really was a cool? Athene was his wife, but in a way he had almost expected her transformation; Marianne was nothing more to him than a woman who used to signal her availability, but in an obscure way he had been convinced his appearing to have tied off would have made little difference in their friendship.

"Here we are," Ritchie said as the car swung into a parking lot.

"Here we are where?"

"Astarte's Temple."

"Drive on," Carewe snapped. "I never had much interest in brothels when I was a funkier, and . . ."

"Relax, Will." Ritchie switched off the turbine. "You don't have to go upstairs, and you don't object to me making a little money, do you?"

The feeling that he was being manipulated, steered like a sheep, returned to Carewe but he got out of the car and walked to the entrance of the Temple. A slim girl clad in the brilliance from a blue-and-violet light necklace approached them carrying a cash receiver. She looked at Carewe's smoothly shaven chin, lost interest immediately and turned to Ritchie, who took a hundred-newdollar bill from his pouch and dropped it into the receiver.

"Astarte invites you to enter," she whispered, and ushered them into the huge bar which occupied the building's entire ground floor.

"I don't get it," Carewe said. "I thought the whole point of these places was that the girls paid you."

Ritchie sighed heavily. "Are all accountants so dreamy? Of course the girls pay you, but the house has to make its percentage too. The hundred bucks admission charge keeps the place exclusive

and pays the overheads—besides, somebody like me can still make a profit from the tributes from the girls."

"Oh! How much tribute do they pay you?"

Ritchie gave an elaborately casual shrug as he made his way through the crowded varicolored dimness towards the bar. "Twenty newdollars per satisfaction."

"Now I see where the house makes it profit," Carewe said wryly.

"What are you hinting at, cool fool?" Ritchie demanded. "You think I won't get that hundred back again? Just you wait and see, cool fool. What are you drinking?"

"Whiskey."

Ritchie reached the mirrored counter and pressed his credisk against a barkeep's eye. "One Scotch, one potch," he said into the grill. Two frosted glasses slid out, one of them rimmed with oyster-pink radiance to indicate that it contained more than alcohol. Carewe lifted the inert glass and sipped the bland spirit, taking stock of his surroundings. Most of the people around him were funkies of varying ages. Girls of the house, clad in light necklaces, moved among their tables and booths like columns of frozen flame. There were a few cools present, all of them—Carewe was relieved to notice—wearing conventional clothing and engaged in normal seeming conversation with their companions.

"Relax, Willy," Ritchie appeared to have read Carewe's thoughts. "This is a straight house—nobody's going to proposition you."

Carewe's doubts about spending a whole evening with Ritchie suddenly intensified. "I'm not a great believer in the social necessity for taboos," he said conversationally, "but has nobody ever told you that non-functional males have strong aversion to being categorized as potential homosexuals?"

"Sorry, professor. What did I say?"



"Why should any man proposition me?"

"I said I was sorry." Ritchie swallowed most of his drink and grinned. "Don't get all heated up, cool fool—I just think all taboos should be broken. It's the only intelligent way to live."

"All taboos?"

"Yup."

"You're positive?"

"Of course." Ritchie set his glass down. "Let's have another drink."

"Have this one—I've hardly touched it." Carewe pulled the top of Ritchie's hose out from his stomach, emptied his glass into the pouch he had created, and let the elasticised material snap back.

"What the . . . ?" The words seemed to tear Ritchie's throat. "What are you doing?"

"Breaking the taboo against pouring one's drink down other people's hose—I want to live intelligently, too."

"You're crazy!" Ritchie glanced at the stain spreading down his thin legs and looked up in growing rage, clenching his fists. "I'll pulp you for that."

"If you even try it," Carewe said seriously, "I promise you'll forfeit all of that hundred newdollars you paid to get in here."

"The boys were right about you."

"Meaning?"

"Meaning you're as queer as a two-dollar watch, that's what." Ritchie thrust his face close to Carewe's. "We all know why Barenboim's been pushing you along so fast, Willy. Where did the two of you go while you were supposed to be down at Pueblo?"

Carewe, who had never hurt another being in the whole of his adult life, drove his fist into Ritchie's throat. The blow was inexpertly delivered but the taller man fell to his knees, squawking as he struggled to breathe. A squad of burly women in leather

helmets materialized out of the swirling dimness, gripped Carewe's arms and ran him out of the bar. In the entrance hall he was held motionless for an instant in front of a scanner, while the house computer memorized his appearance for blacklisting, then he was escorted down the steps and released. Men going into the temple made speculative jokes about the reasons for a cool being thrown out of a brothel, but Carewe felt no embarrassment. He had needed to hit somebody for a long time and he was grateful to Ritchie for making it so easy. Echoes of the blow tingled through his right hand and arm like electric currents, and he almost felt at peace about Athene.

It was not until much later, when he had swallowed more whiskey than was good for him, that he began to worry about the way in which Ritchie—a comparative stranger—had been able to speak knowingly about his "secret" relationship with Barenboim. Both Barenboim and Pleeth had done their utmost to ensure that no hint of Carewe's connection with E.80 should leak out. Had something gone wrong?

Perilous centuries stretched ahead of Carewe as he fell asleep and once again, in the dreams, his body was made of glass.

## CHAPTER SIX

ABOVE THE AIRPORT the morning sky was filled with eye-pulsing brilliance and clear except for the huge column of mist which surrounded the main noise-abatement tubefield. The comparatively warm air of ground level was leaking into the tube through imperfections in the field and rising fast, turning it into an insubstantial jet engine which exhausted into the upper atmosphere. Carewe, who

had arrived early, watched several aircraft taxi into the base of the cloudy pillar, rise vertically and vanish. He tried to see them spew out the top as they set course, but the brightness of the sky hurt his eyes and he was forced to give up.

Getting to the airport early had been a mistake, he realised. The liquor he had drunk the night before had withdrawn its transient benefits, leaving him feeling ill, and there was too much time to think about the immediate future. There was a possibility he could see action with a Fauve team that very afternoon. The thought shocked him afresh every time it recurred, and he stared at the distant peaks of the Rockies with a mixture of nostalgia and resentment. *I don't want to go to Africa*, he thought. *And most of all I don't want to come in contact with any Fauves. How did it happen?* His anger against Athene suddenly returned.

He walked towards a row of communication booths, swearing bitterly under his breath, then remembered he had nothing to say to her. On the practical, domestic level he might have informed her he was leaving the country, except for the fact that the Farma computer would automatically let her know when it was making the new credit arrangements occasioned by his move. On the emotional level he wanted to say: "See what you've done? You've driven me to Africa where I might get killed by a Fauve." But even that childish catharsis was denied him, partly by his pride, and partly by his knowledge that the person he wanted to address, the old Athene, no longer existed. There was nothing to be gained by talking to the hard-eyed stranger who now inhabited Athene's body. It came to Carewe that he had been very proud of his old-fashioned, freakish one-to-one marriage—the union which had survived his supposed impotence by a

matter of hours. Even the manner in which she had broken the news to him told its own story. She had shown no signs of regret, or of anything but her contempt for the neuter object who had once been her husband. *Within a matter of hours! A few stinking . . .*

Carewe became aware that people in the departure area were staring at him. He relaxed his grip on his traveling case and forced himself to smile at a pink-clad woman who was sitting nearby with a small baby on her lap. She gazed at him without responding until he turned away and went to a coffee machine. He dialed a bulb of the hot liquid and sipped it abstractedly until his flight was called, then went and stood on the slideway with the other eastbound passengers. The first movement of the strip, reminder that his journey had begun, brought a new surge of panic. Carewe forced himself to relax and breathe steadily until aboard the aircraft, where concern about his own safety on the flight could occupy his mind.

In his forty years, he had made perhaps a thousand trips on commercial aircraft; and could not recall one in which he had failed to detect some minute but potentially lethal flaw in the machine or its equipment. It could be a faint smell of scorched insulation, a trace of wetness at the seams of a wing tank, or an unusual harmonic in an engine note—things a professional flier might be too blasé to notice, but which were only too obvious to the alert senses of an intelligent amateur. In this case he was not happy about the pressure bottle which in the event of a crash would cause a huge plastic balloon to spring from the back of the seat in front of Carewe and cushion him in pneumatic safety. The bottle looked slightly out of line with its nozzle, suggesting that the seal could be strained and its gas escaped.

He was on the verge of asking the flight steward how often the pressure bottles were tested when a woman sat down beside him. She was dressed in pink and was unsuccessfully trying to disconnect the shoulder straps of a carrycrib which held a baby. Carewe recognized the woman who had been sitting near him in the departure area.

"Permit me," he said with deliberately historical courtesy. He worked the edge of one of the crib's plastic snap-on covers free of the strap's spring clip and it disengaged easily.

"Thanks." The woman lifted the silent infant out of the crib and settled it in her lap. Carewe collapsed the crib, slid it under the seat for her and leaned back, wondering if he should point out that the strap's clip seemed dangerously weak. He decided against it—the woman appeared distrustful, if not actually hostile towards him—but his mind dwelt on the curious feel of the stainless steel fitting. The metal was almost paper-thin at one point as if—a disquieting thought heaved in a lower level of his mind—as if it had been in use for a very long time. Modern steels could withstand many decades of wear before . . .

He pushed his hair back from his forehead, using the movement to mask a sideways glance at the woman's face. Her pale, regular features looked composed and normal, and he relaxed a little, almost ashamed of what he had been thinking. When perfected biostats had become available two centuries earlier the government had been quick to pinpoint the one major possibility for their abuse. The penalties for illegally administering a biostat to a minor were so severe that the practice was virtually unknown, but in the early days there had been a rash of unpleasantly bizarre cases. The most prevalent and most difficult to stamp out,

had been biostat abuses carried out by parents on their own children. Doting mothers, often those who were ill-equipped for an indefinitely prolonged future, tried to bring time to a standstill by immortalizing their children at an early age. Once the invariant factor was introduced into its cell replication mechanism a child's physical development was arrested. Mental growth was affected too because convolution of the brain, necessary for the increase in surface area of the cerebral cortex, could no longer occur. A child frozen forever at the age of three might become exceptionally bright, even learned, but denied access to the higher mental functions he remained essentially a child.

Commercially motivated drug abuses had also occurred, one of the most famous being that of St. John Searle, the boy soprano whose parents had fixed him at the age of eleven for no reason other than that he was their sole source of income. That, and a number of child actors who remained suspiciously infantile, had ushered in tough legislation and tight control of biostat production and distribution. The only examples of the drug being lawfully administered to a minor were in the rare cases of incurable disease. With the invariance factor introduced into his system a sick child was rescued from early death, but there was a moral problem in that his illness became a permanent, unchanging condition. Even where subsequent medical advances made a cure available to mortals, the ailing immortal child remained as he was because his body-image had been crystallised for all time.

Another initial problem had been misappropriation of biostats. During the first feverish production race, when fortunes were made overnight in the attempt to pull all the world's sick back from the brink of death, people had been found

(CONTINUED ON PAGE 103)

# A TIME TO TEACH, A TIME TO LEARN

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Noel Loomis was, for most of his life, a pulp writer in the grand tradition of pulpwriters. His own badge of individuality was that he composed his stories on a Model 15 Linotype, submitting as manuscripts galley proofs pulled from the set linotype. Better known as the author of such historical and western novels as *Johnny Concho* and *West to the Sun*, Loomis occasionally wrote science fiction, his sole novel in our field the magazine-format *City of Glass* (1955). He died, less than a year ago and very shortly after selling us the story which follows. It is probably his last story, and almost certainly his last sf story—a curiously prophetic tale about a Professor of history who has, it seems, outlived his time . . .

## NOEL LOOMIS

Illustrated by MICHAEL KALUTA

THAT FALL there were no bulldozers roaring and clanging outside the classrooms in the History Building. It had been rumored that there would be excavating for a new building, but there wasn't. As a matter of fact, there had not been a bulldozer disturbing the peace of the classroom for thirty years now, and it did not seem likely that there ever would be again.

It was the opening day of the fall semester, and the Professor looked over his eleven students in American History 2A. Once there had been a hundred students in a class and more clamoring to get in, but for a long time now the classes had become smaller every year, and many upper classes had been discontinued altogether.

"The significance of the Lewis and Clark Expedition," the Professor said, "is obvious enough—but what we are really interested in now is the political situation that led to the expedition. You should realize that Thomas Jefferson had long wanted to see the Missouri River explored, but not until he became President did he have a chance to carry it out—and even then against the opposition of the Federalist Party."

He noted that a small girl with old-fashioned pigtails was busily taking notes; she might be a good one, he thought. (Her name was Susan Mitchell.) She just might turn out to be one who would like history and want to go further with it.

"You should not forget that the mud-hutted village of Santa Fe was the most northern outpost of the Spanish empire, and

that British, French, and Americans all thought of it as a fabulous town of black-eyed senioritas, the entrepot to the silver mines of northern Mexico. Spanish officials knew that and feared it, and—"

A hand went up, but for a few seconds he ignored it.

"—many letters passed back and forth from New Orleans, to Chihuahua, to Havana, to Mexico City, and to Seville bemoaning the lack of protection for the mines and for all of northern Mexico."

The hand was still up, and he looked at the boy for a moment. the boy was tall, fair-haired, and wore steel-rimmed glasses; he had an air of bland innocence.

"Yes?" The Professor had never encouraged questions during a lecture, but lately the classes had been so small—

"Sir," said the boy, "it is my understanding that there were no silver mines around Santa Fe."

The Professor said mildly, "If you will read the footnote on page 84 of my book, *The Spanish Borderlands*, you will see that it is adequately explained. There were indeed no silver mines in New Mexico, though there were many in Chihuahua and Sonora."

The hand went up again.

"Yes." The Professor was mildly annoyed.

"But you said—"

"You did not allow me to finish the paragraph," the Professor said dryly. "Knowledge of geography was extremely vague; even the governor of Louisiana thought the Missouri River headed west or southwest of Santa Fe. The important thing"—he ignored the hand again—"is that all nationalities *believed* there were such mines." He tried to gather his thoughts again. The boy's name was Richard Weeks. "You must remember too that one of the most important motives for exploring the



Missouri was to find a way to the Pacific Ocean to provide a shorter route from Europe to India and China."

The girl's pen was flying now, and the Professor was encouraged.

"In fact, Governor Carondelet had offered a prize of \$2,000 to anyone who—"

The boy's hand went up again.

The Professor ignored it. "—to anyone who would ascend the Missouri and find a water connection to the ocean—the South Sea, they called it then."

The hand was still up.

The Professor said, "I have asked that you not interrupt while I am lecturing."

"But, sir—"

"I shall be very happy to answer your questions in my office after class," the Professor said firmly, and went ahead. "It was not known that the Missouri's headwaters were near those of the Snake that led into the Columbia, but it was rumored that the Indians said there was a connection. And as a matter of fact—"

With chalk he quickly sketched a rough map on the blackboard.

"Not until the time of Pedro Vial—about 1786," he said, "was it known at all that the Missouri and the Snake actually headed somewhere in the same region, but—"

The hand went up again, and the Professor paused. He had a very carefully prepared lecture, but now he was beginning to lose the thread of his thought. For a moment he was uncertain, but then his natural inclination to be helpful asserted itself and he said: "Yes?"

"Sir, can you cite authority for that statement?"

That at long last was outright insolence, but the Professor kept his cool. "There is a copy of the original manuscript map at the University of New Mexico."

The boy was shrewd. "But not the original map, sir?"

"Not the original," the Professor conceded. "The original was seen twenty years ago but has since disappeared. There are several copies."

"But, sir—"

The Professor, now thoroughly annoyed, said: "Will you see me in my office after class?"

The boy's face was inscrutable. "Yes, sir."

"I am well aware," the Professor said to the entire class, "that much of the information I am giving you is not in book-form. That is the principal reason for my lecturing."

Now the girl's hand went up, and he nodded, regretting the several interruptions because it would take him ten minutes to get back into the line of thought he wanted to maintain, but now, for the moment, hoping to detract from the boy's self-importance.

"Sir, can you tell us what happened to the original map?"

He relaxed a little. That was a question that he liked; it showed imagination and real interest.

"There are a number of possibilities," he said. "It may have at some time been misfiled inadvertently; it may have been lost—sometimes a paper might be dropped on the floor and later swept up and destroyed. Or—" He smiled. "I'm afraid we must face it: sometimes a researcher gets carried away and pops a document into his briefcase and takes it home."

"Aren't there precautions against anything like that in the big archives?"

"There are precautions everywhere," said the professor, "but the truth is that when persons are handling documents,—pieces of paper,—it is next to impossible to have a foolproof procedure. Perhaps a checkout procedure of some sort—but it would be so cumbersome that it would discourage the new researcher and be violated by the

professional historian."

Susan looked puzzled. "I just don't see—" Her pigtails swayed as she shook her head.

The Professor smiled. "Researchers and professors are really just people, you know. One can sort of get the feeling that a certain subject belongs to him, and he may not feel that he is doing anything wrong when he takes documents home, since he intends to use them." He looked through the sealed window at the vacant lot outside. They weren't even watering the eucalyptus trees any more. "Occasionally a historian dies and his heirs find such documents in his files. Then there is a tender problem." He watched the girl making notes. "I know this can happen," he said, "because I myself have examined documents in two or three cases, made notes on them, and then decided later to have them copied, only to find that they have disappeared." He remembered one such document in the National Archives that he had seen but had been unable to find ten years later. It might have resulted in the replacement of a national monument—but he shrugged. It was not too important—merely a matter of truth.

He tried to resume his lecture. "However, the fact is that Pedro Vial's knowledge seems not to have been known to any Spanish officials or anybody else, and so all the exploration by all governments was aimed partially at a clarification of geographical knowledge. An accurate map was known in 1802 but the author is not known—and in fact it was not until William Clark returned from the expedition and made a map in 1806 that Pedro Vial's knowledge of the region, then well over twenty years old, was verified."

He looked at his notes. "It is important, of course, to consult Jefferson's instructions to Lewis, to know with some assurance what

his aims were. And while some careless writers, in the downgrading of our historical leaders that was so popular fifty years ago, have said that Jefferson's aim was to acquire territory, so far there is no documentary evidence to support that statement, and I would not want you to assume it unless you can find such evidence."

Susan Mitchell had stopped making notes and was watching him intently, and he wondered if she was bored.

He continued, but somehow the interruptions had taken the emotional steam out of his presentation, and it seemed dull and lifeless and hardly more than a mere recounting of facts; then he gave five minutes of instructions on the preparation of the papers, and finally allowed five minutes of questions:

"Is this a required course for mathematics majors?"

"I believe it is," said the professor.

"But I have never liked history," said a student.

The Professor smiled. "I didn't like it, either, when I was in school." ("When I was in school"—sixty years ago! Three lifetimes for these students! Sixty years ago! Was he really, perhaps, out of touch with the generation?)

Then it was over, and he packed his notes and books into his briefcase and answered more questions:

"Where is the Health Service?"

"Will this course count toward a secondary credential?"

"How many units do I need for—"

All such questions were answered in the catalog, but the processes of education had become so complicated that it took a Philadelphia lawyer to figure them out. He did the best he could, however. The way things looked, it would not be long before he would not have the privilege of answering those questions . . .

As he descended the stair to his floor, he saw the steel-rimmed glasses of Richard Weeks, and he thought it might be a good idea to keep him waiting for a few minutes, so he stopped at Professor Johnson's office and saw the professor sitting there, staring at the sealed window.

"Morning, Ed," said the Professor.

Johnson turned slowly. "Morning, Bill." His voice was flat and tired.

The Professor set his briefcase on a corner of the desk and continued to stand. "Feel all right?" he asked.

Johnson raised his eyebrows and looked at the Professor. "Physically, yes."

"It's getting you too, I take it."

Johnson shook his head. "The old studied insolence of our days in college, back in the 1960's, is returning. Everybody knows the carrels are going to replace us all within ten years, and they are reacting accordingly. My Middle European History class has nine students, and one of them is deliberately trying to break up the class."

"There were those," said the Professor, "and now, sixty years later—in 2020—they are back. Yes, I have one."

Johnson looked up. "What are you going to do with him?"

"Make him pipe down or get out."

"Is he the kind who wants to know the source?" asked Johnson.

The Professor smiled acidulously. "It's the same old technique—a subtle psychological method of frustration for the instructor. I saw it tried in several classes and I saw one woman teacher leave the classroom in tears." He rested both hands on his briefcase. "They discovered that we were human," he said, "and also, I think, they discovered that we had operated under the protection of our faculty status for so long that we were defenseless."

Johnson shook his head. "It's too much for me, and I'm not emotionally equipped

to fight it."

The Professor looked down at him with compassion. The Professor was tall, spare, still brown-haired, still firm of step at eighty-four. "You're six years younger than me," he said. "You can retire in another twelve years or you can go for thirty-two years."

"My health is excellent," said Johnson, staring at his desk, "but my state of mind is pretty low."

"You know there are pills for everything now. Had a checkup lately?"

Johnson laughed dryly. "Barring something unforeseen, the doc says I'll live to a hundred and fifty." He looked up at the Professor, and there was weariness in his eyes. "But I asked him, 'What for?'"

The Professor hesitated. With greater longevity,—now almost double that of a few years previous,—there had been an increase in suicide of nineteen times among older persons. "You've been wanting to do some research," he suggested, "on the importance of feudalism in caring for the poverty-prone."

Johnson shook his head. "I've changed my mind," he said. "Things are all turned upside down. The new and the youthful are back in the saddle—and the main thing they rely on is being different." He went on bitterly: "It doesn't matter whether it's good or not. If it's different, that seems to be ample excuse."

"But—"

"So teaching and learning and even living today are different. You and I are already obsolete, Bill. The electronic carrel has made us technologically useless as teachers."

The Professor took off his glasses. "I don't think so," he said without conviction.

Johnson got up and walked to the window, then turned around. "They said back in 1963 that electronics would make



reading and writing obsolete—and they've done it. I remember when they started using television to teach bigger classes, and teaching assistants to answer questions and grade papers. The college faculties thought it was clever; we didn't foresee the final result."

"Nor have we yet," said the Professor.

"We are about to see the end of you and me," said Johnson. "And it would have been all right except that they lengthened normal life much more than we anticipated. Now we are like an automobile that lasts a hundred years—past the time when automobiles are even remembered."

The Professor smiled. "I remember when my automobiles used to be obsolete in about ten years because traffic conditions changed so rapidly."

"All right!" said Johnson. "And now teaching has changed, and you and I are living past our time." He added quietly, "That's why suicide was made legal and easy." He smirked. "Of course they call it something else: auto-euthanasia! What a clumsy euphemism!"

The Professor frowned. "For a person of interests, one who has studied all his life, one who has some concept of the historical problems waiting to be answered—"

"Horseradish!" said Johnson. "A way of putting in time—or what? To kill time until I die?"

The Professor paused. He had thought about those things himself, but he hadn't come up with an answer.

"That isn't all!" Johnson said, and pointed toward a man crossing the campus toward the History Building. "You see Harold Stegmuller there? Thirty-two years old and head of Transmission; makes more money than the president of the college, and actually is more powerful than the president because he controls the courses to be put on tape and he decides how they are

to be presented." He paused, watching Stegmuller. "We're obsolete, I tell you. In another twenty years there will be no classrooms and no classes—and no teachers. The new 'teachers' will be communication specialists and technicians."

The Professor picked up his briefcase. "I have an appointment," he said. "How about lunch with Alice and me?"

Johnson shook his head. "You'd better investigate the mind-blanking qualities of alcohol," he suggested. "It may turn out to be a greater blessing than Man has yet understood."

Stegmuller was coming up the stair when the professor got outside Johnson's office, and Stegmuller called softly to him. "Professor, I wanted to see you," he said.

The Professor waited. Stegmuller was young, vigorous, and so good-looking he should have been in pictures.

"We're making a tape on History 2A," he said in his beautifully modulated voice. "Just an experimental tape, of course—but we know that you won't be here forever, and we have to look ahead. It takes years, you know, to work out a good tape for any course."

Well, that was letting him down easy, the Professor thought as he tried not to flinch under the shock.

"And since you have long been recognized as the best in your field, and your students have several times voted you the best teacher in the college," Stegmuller went on smoothly, "I thought that we had better get the benefit of your competency in the subject and your long experience in teaching. In short, Professor, we'd like to engage you as technical adviser."

Technical adviser to his own obsolescence. Well, if he was obsolete, he was obsolete and it couldn't be helped. Maybe he should find out what the electronic carrel was really all about. He nodded. "Whatever you say."

Stegmuller looked at his watch. "We are having a story conference this afternoon at four o'clock. If you could make it a little earlier, I could show you what we are doing with tape. It's really quite fascinating—very exciting—a great challenge, you know, to carry education to the people instead of waiting for them to come after it."

"Three-thirty," the Professor said.

"There is a stipend, of course—half of what you're getting now, for a minimum of one year," Stegmuller smiled. "Nice way to pick up some change for three or four hours a week."

The professor said, "Half of my regular pay? I don't see how—"

"A tape like this is good for years, once we get it in shape, and of course it takes the place of a hundred professors, so we can afford to spend money on production."

The Professor nodded and went on to his office. Young Weeks was waiting. The Professor unlocked the door. He went inside and set his briefcase behind his desk and said, "Come in."

The boy stood until he was asked to sit down. He was, the Professor observed, meticulous in all the formalities. The Professor had seen that kind in the 1960's, too. Meticulous but deadly unless you kept control. You had to be rough—but not too rough, for this fellow and his kind were very clever with public opinion.

The Professor began: "I don't like to have my lectures interrupted because it throws me off the track," he said honestly. "I prefer that you hold your questions until I reach a stopping-point."

"I just wanted—"

The Professor gave him a wry smile. "I know—but if you really want a source, you can wait, can't you?" he paused. "Or is it that you just want to cast doubt on my veracity?" he asked abruptly.

The boy's face did not change at all. "I

just—"

"You just," the Professor said pleasantly, "want to make it impossible for me to teach."

"Oh, no, sir. It is just that I—well, I am not used to your approach. My previous professors have offered more evidence and not so much interpretation."

The Professor studied him. Previous professors, eh? "What year are you in?" he asked.

"I'm a senior, sir."

"Why are you taking History 2A, then?"

"I have to have it to graduate."

The Professor said, "Unfortunately for you, my course is the only live course left in 2A—and you don't like the way I teach."

The boy remained silent.

The Professor said calmly, "I have been teaching this course for twenty years, and it is not very much like the course I taught in the year 2000. It changes constantly according to new findings, according to my own evaluations, and according to the changing students. I am paid for teaching it, and the process is left up to me. It seems to me, therefore, that you will have to accept my methods or wait until the course is given by somebody else." A thought struck him. "Or take it on the carrel."

"If you would just—"

The Professor said, "I can always furnish a source for everything I say. If not, I will tell you so. In the meantime, it is my decision that you refrain from interrupting my class until I ask for questions."

Somehow, there seemed to be no reaction. It was as if the boy didn't care, one way or the other. Had he, then, merely been testing him? Probing—just to see what the Professor would do? But a curious thought came to him. When boys like Weeks began to study by the carrel, how would they disrupt things then?

"Is that all, sir?"

"That's all. If you stay in my class, don't interrupt."

"Yes, sir." The boy left swiftly and silently.

Since the advent of the carrel, many of the older professors had retired while many younger ones had gone into various departments of Transmission, and so each professor left on the faculty had an office to himself—a luxury not available in the hectic, expanding 1960's or 1970's. And now the Professor sat there for a moment, reflecting that the testing of an older person by a younger person was as ancient as time itself; it had only taken on more subtle and perhaps more cruel forms—and would have to be handled the same way: with firmness but without rancor or vindictiveness.

A soft voice came from the doorway: "Professor!"

He looked up with a smile. "Come in," he said.

Alice was ten years younger than him but still slim and shapely, still blond and blue-eyed and beautiful. He rose and kissed her. "I am as pleased when I hear you call me from the doorway as I was the first time, when you were an undergraduate," he said.

She smiled. "I heard a part of what was going on," she said, "and I stayed outside until it was over."

"It's happened before," he said.

She watched him with her blue eyes. "Is there a possibility that there really is a gap between you and the students, Bill? After all, sixty years—"

He sat on the corner of his desk. "Possible—but not likely. All we were talking about is good manners."

"Ed Johnson says the end of personal teaching is in sight."

He frowned. "I don't think so."

Alice persisted. "He said they're cutting the number of courses by twenty-five percent for next year—that only basic

courses will be retained."

He stared at her for a moment, then reached into his wastebasket for the Faculty Bulletin. He scanned it, then said, "So the president says."

"Will that mean you?" she asked.

He thought about it. "I don't know. I've been here a long time—but that's not important in a situation like his." Was that why Stegmuller was making a tape for History 2A?

"Whatever started the electronic carrel thing?" she asked. "You never talked about it."

"I never took it seriously," he admitted. "Actually, it started about 1960 when enrollments got ahead of teachers and classrooms, and the original idea was to make it possible to handle, say, a thousand students at a time without the actual presence of the professor, so that he would be saved the time spent in appearing."

"It sounds awfully cold," said Alice.

"There were problems—but they kept trying to iron them out. In the late 1960's there was a tremendous influx of students in some schools, and there weren't enough classrooms, so the carrel came into use. At first they were playing tapes with sight and sound and usually color, and the professor recorded a carefully prepared lecture—but presently they moved the tapes to other auditoriums and then into private homes—but the mechanics of moving equipment was a problem, so finally they made these individual carrels—a plastic booth where a student can sit in comfort, isolated from outside distractions of all kinds, and watch a professor give his lecture, listen to his words, and be able to dial a student assistant for answers to questions. About once every two weeks he would take a test and the machine would grade it right there, and he would know his score within seconds. His score would be

transmitted to a master machine at the school, and that machine would calculate his grade and make a record of it."

She said, "You mean a student might never see his professor?"

"It was that way at the University of California when I was an undergraduate—before the time of the carrel," he said. "It's nothing different except that now there's no pretense."

"It sounds awfully sterile to me," she said. "I'm glad I went to a small college where at least I could make eyes at the instructor."

He studied her absently. "There's something to that, isn't there? How can a student even know he is in school when all he does is sit in a booth in his home and take a machine-scored test? Or is it important?" he wondered.

"How," she asked brightly, "can a girl even know when she is hungry?"

He grinned. "We'll go to lunch," he said. But when they were walking across to the campus to the now almost-deserted faculty lounge, he asked soberly, "Is it possible they are right?"

"Who—and about what?" asked Alice.

"Is it possible," he asked, "that a student can learn just as well in his home as he does in the classroom? If so, it would save a lot of money on classrooms, and the student would not have to go to school or worry about transportation. He wouldn't have to shave or dress in the morning. In fact, he wouldn't have to be there at a certain time. He could go to the booth whenever he felt like it, turn on the tape and listen, then turn it off and go about his business. There would be a tremendous saving of time, effort, and money." He pulled the door open. "The problem is: would he get the same results?"

"Well," said Alice, "study is study, at home or at school. Most of the study is

already done at home."

There weren't over twenty-five or so professors in the lounge, and it was quiet and restful—far different from the days when there had been two hundred and you could not hear yourself talk.

They found a table in a corner, for they still liked to be alone, but then President Duncan came in and made his usual rounds. He stopped at their table and greeted Alice with some pleasantries, and said to the Professor: "Would you call me when you get back to your office? I want to talk about next year's schedule."

Alice asked later, "Why would the president be calling about the schedule?"

The Professor was troubled. "I can think of only one reason: he wants to discuss adding or dropping a course." He thought about it for a moment. "And it seems pretty obvious that they are not adding a course."

They ate in silence after that. Then they said their adieus and left. Alice went on to a shopping-center and the Professor returned to his office and called the president. "You said you wanted to talk to me."

Duncan said, "How would you feel about cutting off History 2A? I know you have taught the course for a long time, but the fact is we have arranged to offer it as a carrel course. We really did not expect to intrude on your teaching, but the state university cut into our enrollment when it installed long-distance lines and set up its own carrel system, so we have to pull in our horns. You don't have many students in the classroom this semester—" He paused. "Of course it would not affect your earnings or your retirement. If you don't want to retire, we could find room for you in Transmission without any problem."

The Professor felt faint, and did not answer immediately.

"It wouldn't really be much of a loss, would it?"

Somehow the Professor said, "I have always liked teaching. I like the kids—even the naughty ones. It has always been a challenge."

The president sounded sympathetic. "You are one of our most valued teachers, Professor."

"Has the decision been made?"

"No, not really."

The Professor stared at the wall. "And if I should say I do mind—"

"We would have to consider it, certainly. But I'm sure you won't do that without good reason."

"No, I won't," said the Professor.

He met his afternoon class in Western American History 5A at one o'clock, but he was too upset to do more than go through the motions. He knew the lecture pretty much by heart, anyway, and from the time he got into the machinations of Samuel Mason and Wiley Harpe on the Natchez Trace, to the Second Committee of Vigilance in San Francisco, there was not an interruption. It was not all a part of the text, but rather a lecture that he called a narrative hook—that is, he wanted to interest the students and let them know there were a thousand leads to follow.

A very big girl with straight blond hair came up after class and said, "Gee, Professor, I never knew it was like that! I'm glad I took this course."

He smiled and thanked her, and at the same time he realized that he could deliver the same lecture on tape with equal effectiveness—perhaps better, considering modern production techniques.

The girl was still there. "I always thought history was just a bunch of dates," she said.

She didn't look like any brain to him, but she was interested, and he had long before learned that interest was worth more than any amount of brains. "It's about men and women."

"Are there any books on all that stuff you were talking about?" she asked.

He smiled. Literally hundreds—but he didn't say that for fear of scaring her away. "What interests you the most?" he asked.

"I like it about the Committee of Vigilance."

He said, "I have to go to a meeting right after class, but if you will come in at twelve o'clock tomorrow, I will have a bibliography for you of books in our library. The murder of James King of William and the hanging of Casey and Cora were about as tempestuous a period as we have had in American history, and one of the greatest of all experiments: taking the law into the hands of the people."

"Gee, thanks," she said, and swept out.

He could have given her the list from memory, but he wanted to talk to her for a while and to suggest the specific interests covered by various books, and at the same time to avoid piling it on so thick as to discourage her.

She dropped two books as she turned, bent down to pick them up and backed into the coat-rack. Well, his office *was* a little crowded with the impedimenta of thirty years—books, file-cases, theses, manuscripts, quarterlies. Perhaps she was a little clumsy, too, but she was interested . . .

At the Transmission Building, which once had been the Library before the Library had been moved to a smaller building, he was met by Stegmuller, who took him into his office and poured him some coffee.

"You know how this works," said Stegmuller. "We make a tape and file it in our stock. We have a big tape-room a lot like the record-player in a restaurant, and when the student wants to hear the lesson for a given day, he dials it; then a traveling arm goes to the right spot, picks up the tape,

takes it to the machine, starts it playing, and finally returns it to stock after it is through playing."

"It must take a lot of players," said the Professor.

"Well, I have oversimplified. Actually, for a popular course like History IA, we play the tape at a scheduled time. The receiver in the carrel, then, is activated from our machine, and will record the program if there is no one there to watch it at that time. Then, when the student returns home, he merely turns on the carrel and watches the tape at his leisure."

"Somehow," said the Professor, "it just sounds too easy."

Stegmuller asked cheerfully, "Is there any reason why education should be difficult?"

"I can't think of any," the Professor said slowly.

"Actually, it has been still more simplified for the student. When he first enters school, of course, he has to matriculate, but once the carrel is in his home, he doesn't even come to the campus to register. He can do it all on the carrel."

"Then, except for matriculation," said the Professor, "a student can get a degree without ever showing up on the campus."

Stegmuller shrugged. "Yes, indeed—and if his record is good, he can go on to the master's and doctor's in the same fashion; he can take his orals by telephone in the carrel, and the thesis can be graded by machine. It saves enormous quantities of professors' time."

"For what?" asked the Professor.

Stegmuller smiled vaguely. "For whatever professors do in their spare time."

"And eventually," said the Professor, "there won't be any professors at all."

Stegmuller did not answer.

"It's really a machine-made education," the Professor murmured.

"The critical element, of course, is the tape," said Stegmuller, "and that is why we want you to advise us on this project."

"Why not just tape one of my lectures?" asked the Professor.

Stegmuller smiled tolerantly. "In the first place, your lecture is adjusted to suit only a very small group, while the tape must be made impersonal to have a wide appeal."

"And therefore a lower level of effectiveness," the Professor noted.

"Oh, I think you can make the point."

"And in the second place?" asked the Professor.

"What?"

"You implied a second place."

"Oh." The quick smile. "I'm afraid I've forgotten the second place."

"Permit me to supply it," the Professor said dryly. "In the second place, you have a big organization built up to make tapes, and the manufacturer has a huge organization built up to make carrels, and somebody else has a huge organization set up to make the tape, and a local company has a big organization set up to service the carrels, and so the process of education-for-everybody and education-to-the-lowest-common-denominator must continue."

Stegmuller looked blank for a moment. "I'm sure you are joking, Mr.—by the way, what is your last name?"

The Professor said steadily, "It obviously does not matter any more." He paused. "I'm not cynical, really—but realistic." He smiled faintly. "I promise not to make any more unkind remarks—so proceed."

Stegmuller poured more coffee. "I think our story conference is about ready. Shall we go in?"

Perhaps the only suitable adjective for the story-conference room was *opulent*; there was a huge teakwood table with white satinwood inlays—no doubt symbolic of something or other—and teakwood chairs

beautifully upholstered in white leather and padded, as the Professor discovered, with ionized foam rubber.

Stegmuller took over the meeting. "Now what we have to do is outline a script for, say, the Professor's first lecture to his class in History 2A. We can, of course, save a great deal of trouble by eliminating answers to the usual dumb question by students, and I suspect that we can better concentrate on loading the fifty minutes with information." He looked at the Professor. "Now, sir, will you give us an outline for your first lecture?"

The Professor said, "Far better would be a tape recording."

"Of course—but we don't have—"

"I do," said the Professor, pulling a box from his pocket. "I always record my lectures."

"What in the world for?" asked Jim Robinson from across the table—almost as if it was unheard of.

"Isn't that standard procedure for any one who wants to improve on his own lectures?" asked the Professor a little testily.

Stegmuller said brightly. "Could you outline the lecture for us in, say, five minutes, Professor?"

The Professor thought about it for a moment, and then said, "No, I cannot. I can deliver it or I can play it for you—but I do not think I can outline it in five minutes." He looked around. "You are all going to leave this room and go about your various specialties—script-writing, scene-painting, sound-effects, casting—from the things that will be said here, and I cannot be responsible unless you know what I am going to say."

Robinson allowed a hint of a sigh to escape from his throat. "It is not actual content that is so important, Professor. We are just going to see how the wind blows, so to speak. The actual production problems

will be handled in the various departments."

The Professor looked them all in the eye. So bright, so young, so committed—to what? Or should the phrase be, *so stupid?* "For more years than any of you are old," he said, "I have refined, condensed, added, deleted, tailored, and worked over my lectures to present the most possible information in the shortest possible time. Now it appears that you have something quite different in mind, so why don't we go our separate ways? I will continue to teach History 2A as long as I am allowed to, while you gentlemen work out your own idea of a History 2A course and make your own tape?"

"We do," said Stegmuller, watching him, "have the 2A tape from N.Y.U. that we have been using."

The Professor put his audio-tape back in his coat-pocket. "Then I suggest you use it—and I doubt that I can be of any assistance."

There was silence for a moment, and then the Professor ostentatiously looked at his watch and arose. "I have an appointment," he said. "Perhaps you will excuse me."

Stegmuller was up. "I'm sorry, Professor. We didn't mean it that way." He smiled ingratiatingly. "You see, Professor, we are used to rather brutal give-and-take in these conferences."

The Professor was tired of all the circumlocution. The truth was that they would push him just as far as he would allow them to push him. They used the same ploy as did Richard Weeks. But he was suddenly weary. "I feel sure," he said, "that I am not contributing to this conference, and I beg you to excuse me." Whereupon, he walked out.

He took Alice out to dinner and they had a couple of drinks, and he forgot about the whole business—or tried to—though how a

man who had enjoyed teaching for sixty years could forget the fact that they were pulling the rug from under him, was something else . . .

Stegmuller was over the next day, and asked if they could borrow the tape. The Professor felt like saying something vulgar, but did not. He gave him the tape instead, for, after all, they had to live too.

"I'm putting you on as adviser," said Stegmuller.

"It's not necessary," said the Professor. "I am not suffering for money."

"We shall want you to sit in occasionally. In fact, we shall have a production conference in about a month, and I know you will be interested to see your lecture come to life."

The Professor looked at him. He hadn't known his lectures were dead. But he did not want to be a curmudgeon. "Let me know," he said. "But I assure you, I feel no obligation on your part. You have your job to do, and I have mine, and they are not the same. It might be best for you to go ahead on your own."

The long-haired girl came in at noon and he sat her down and began to talk about the hectic events of 1856 in San Francisco. The girl's grooming was a mess. Her hair turned out to be a wig, and it had slipped and showed her dark hair beneath. Her clothes—well, it was hard to know exactly what she was wearing—sort of a potpourri of this and what; no stockings, but at least she wore shoes. The Professor shuddered as he remembered the dirty-feet era of the twentieth century. He mentioned two or three books that he knew were in the Library, and presently it was almost one o'clock and time for him to go to History 5A . . .

continued to take notes while Richard Weeks continued to listen and watch with no apparent emotion; he always had questions at the end of the lecture, however, and they usually had to do with sources, but the Professor had learned his lesson, and he would sometimes enumerate half a dozen sources. Weeks never made a note, so obviously he was not interested in the sources, but the Professor continued to give explicit answers because they had a good effect on the class and perhaps partly because they helped to keep the boy in his place. If there was a tiny bit of malice in the Professor's actions, he did not try to rationalize it to himself. *It seems quite possible*, he thought, *that I too am human.*

Stegmuller called him six weeks later and suggested that he sit in on a morning production conference.

"Your tape," he said, "has been most useful, and we have used it to guide our production efforts. Of course you will realize that our appeal is more visual than aural, and a few things have to be omitted, but I am sure you will be pleased at the graphic quality of the presentation as a whole."

Graphic quality of the presentation? Probably—but what did that have to do with teaching? Nevertheless, he went over that afternoon to the conference-room, to find Stegmuller, Robinson, and three others at the teakwood table.

"Now, we have all heard the Professor's excellent lecture," Stegmuller began in an obvious attempt at appeasement, "and we are concerned now with the problem of transferring this to a visual tape as effectively as possible."

Robinson said, "In my opinion, the lecture should start with a mug-shot of Jefferson. Show him giving Lewis his instructions."

"I see no point in showing Jefferson,"

In the following weeks, Susan Mitchell



said a younger man, David Cole. "It's an obvious attempt to be chauvinistic." He seemed already bored.

"It's an excellent orientation-point," said Stegmuller, and that seemed to settle it.

"I'd like a panoramic shot of the Missouri River," said Roddy Meyers.

Stegmuller said, "You're talking about money now, because we've just signed a new contract with the scenery painter's union—twenty-one percent increase."

Meyers shrugged. "We have some drops from three years ago, when we made the one on the Susquehanna for Revolutionary History IA."

"Oh, splendid!" Stegmuller beamed.

The Professor said, "The Susquehanna doesn't look much like the Missouri."

"Doesn't really matter," said Stegmuller. "We'll blur it so nobody can tell exactly what it is. Now, what about Pedro Vial? Do you have a description of him, Professor?"

"None is known," the Professor said.

"Well, I think we could risk a sort of composite frontier type."

"It wouldn't be accurate," said the Professor. "He may not have been a frontier type."

Robinson nodded. "The general impression will be conveyed. That's what counts. Now, I suppose Research can come up with firearms and other weapons, and Costumes will have the dope on uniforms. How about horses?"

"Horses cost money," said Stegmuller. "I think we can imply horses."

"And Indians?"

"We have a list of Mexicans in the area."

"Mexicans do not look like Indians," said the Professor.

"The viewers won't look too closely. Besides, the screen is very small in the carrel."

"Why not get some real Indians?"

"Too expensive," said Stegmuller. He

looked at the Professor. "Do you realize that we'll have a hundred thousand dollars in this tape before we get through?"

The Professor said steadily. "I do it every fall for a lot less than hat."

Stegmuller laughed heartily.

"Who will narrate?" asked Meyers.

"I have a graduate student," said Stegmuller, "who speaks with an intriguing French accent that will absolutely send the feminine viewers into ecstasy."

"We haven't got a girl in there yet," said Robinson.

Stegmuller smiled genially. "I have just the girl for this," he said. "Hazel-brown hair, brown eyes, 36-26-36. The males will be crazy over her."

The Professor asked, "Where does a girl come into this picture?"

Stegmuller shrugged. "She could be an Indian princess."

"With blond hair?" asked the Professor.

"I hadn't thought of that," said Stegmuller. "Maybe she could be a sister of Pedro Vial."

"Please!" said the Professor.

"Just kidding, of course," said Stegmuller. "However, we do have to get some romantic interest in a film like this."

The Professor said dryly, "I know that romance is the most important thing to the human race—but does it have to be present in a lecture on Western American History?"

"We have run many studies that indicate that tapes with romantic interest are more popular than any other kind."

The Professor sighed. "What does popularity have to do with it?"

Robinson spoke up. "Professor, you must realize that we have a different type of audience from yours."

The Professor looked at him. "In the beginning," he said, "the idea was to make education available. What is it now—to compete with pay-television?"

"You must understand," said Stegmuller, "that we can very precisely estimate the impact of any tape on the viewer by means of pulse-rate, blood-pressure, and body-temperature sensors located in the carrel itself. These feed back to a recorder here in the laboratory, and we run them through a computer that weights them for the sex, age, occupation, race, religion, and characteristics of the viewer, so that we constantly have a running check on effectiveness. If we produce a stinker, we know it within hours—so we dare not take chances."

"Forgive me if I am not educated in the jargon of your trade," said the Professor, "but does that have anything to do with teaching?"

"Everything!" said Meyers, leaning forward. "It is well known that people learn better under emotional stress."

"I still don't understand it, even though I am trying very hard to do so." The Professor looked at Meyers. "Are you the set designer?"

"Yes, sir."

"And does that doodle on your pad represent your idea of an Indian?"

"I was just sketching some head-dresses that we have in Wardrobe," said Meyers.

"That's a Sioux head-dress," said the Professor, "but very few—if any—Indians wore that type of head-dress in 1803."

Stegmuller intervened. "They are colorful, don't you think, Professor?"

The Professor finally got to his feet. "I am not going to criticize what you are doing," he said, "but I would like to say one thing: this is not teaching, and I can think of several reasons why it is not. Also, at this point I am beginning to doubt that anyone has ever been helped by this kind of teaching, and I think it best that I say so now."

Stegmuller studied him for a moment,

seeming to consider how best to placate him. "Professor," he said finally, "our impact studies show very great results from this type of teaching." He likewise arose. "I fully understand your reaction, for it is unpleasant to hear it implied that one's life has been spent, shall we say, doing things the hard way. But the truth is, Professor, that we have been able, with better tools better used, to gauge the effects of any type of education with an accuracy of plus or minus one point, and—"

The Professor said calmly, "Yes, I imagine you have whole stacks of charts showing responses of viewers, and huge graphs showing the composite response to anything from the beheading of Queen Mary to the seduction of a rattlesnake. But have you made any long-range studies—anything to show what the student does with his knowledge, what kind of citizen he turns out to be?"

"Yes, we have," Stegmuller said gravely. "Would you like to see the report entitled 'Post-Graduation Choices in Critical Life-Situations'?"

"Absolutely not," said the Professor. "What I want to do is go get a drink. This is the most fantastic situation I have ever been in."

"We do have some rather eminent graduates," said Robinson. He spoke to Stegmuller: "How about taking him out to see Herman Bissell?"

"There is no reason why you should," said the Professor. "I'm not going to oppose you. I just don't fit into this madhouse."

"We have a public relations problem," said Stegmuller. "It was suggested that we use you to avoid criticism, and there will have to be explanations if we don't."

It was more than that, the Professor knew instinctively. He watched them for a moment, and then he saw what it was. They weren't sure, either; they were technicians,

knowing how to install sensors, how to read the results, how to project them on charts and graphs, and how to construct tapes that would produce the kinds of chart and graph that looked good—but they knew damn well they were missing the important step: education, and they hoped he would be able to reassure them.

They were doing a job, where he had always been concerned with long-time results. Was it the difference between a technician and a teacher?

He asked abruptly, "Who is Herman Bissell?"

"A very interesting fellow," said Stegmuller. "Why don't you sit down, Professor."

The Professor sat down.

"You must understand," said Stegmuller, "that the philosophy behind the carrel is that the student must be free. He must be free to consider facts and logic. He must be free of any emotional involvement in the classroom that might interfere with learning-assimilation."

The Professor remained silent.

"Therefore, we do not measure results by achievement in the usual terms. We are not interested in how much money they make, how high a position they achieve, or any of the usual measures of success. We are interested in their total commitment with the precepts of civilization, their recognition of the destiny-value of character-commitments."

The Professor smiled. "What you are really saying," he pointed out, "is that you are concerned with something that cannot be measured. In fact, you have used so much jargon that I doubt that you can define anything that you have said. However, the great beauty of your position is that since your results are not measurable, you can use your own graphs and the fact that a man has finished a course itself as

proof of its usefulness."

Robinson said, "There is no need for such an indictment, Professor. We are merely—"

"Yes," said the Professor. "You are merely trying to keep your jobs." He looked at Stegmuller. "All right, how about Herman Bissell, for whom you have already apologized?"

Stegmuller moistened his lips. He seemed a little unsure now. "I'll have my secretary call him." He pressed a button on the teakwood table, and a rather gorgeous brunette bustled in with rather pleasantly undulating hips. "Call Herman Bissell, and see if he can receive us."

"Now," said Meyers, "about the visual aids. I think our file of woodcuts—"

The girl swung back in. "Mr. Bissell will be happy to see you at any time. This is his day off."

Stegmuller got up again. "Professor, let's you and I go out to see Mr. Bissell."

The Professor went out ahead of him.

The Professor said, "I think I'll go by the office first. I'll meet you at the C Station in about ten minutes. What did you say Mr. Bissell majored in?"

Stegmuller smiled. "History, as a matter of fact."

The Professor smiled. "Of course. I should have known."

He went upstairs. It was now about noon, and the faculty wing was usually deserted at that time. Professor Johnson's door was closed, and he apparently had gone home. The Professor walked on down the hall, put the key in his lock—but stopped abruptly. He had smelled something like new-mown hay.

Alarmed, he looked up and down the hall but saw no open door. He walked back to the stair, sniffing. The musty, sweet smell was strongest outside Johnson's door.

He knocked. No answer. He knocked harder. "Professor Johnson," he called.

There still was no answer, and he tried the knob. It turned, and he went in.

Professor Johnson had fallen back in his chair, the chair had gone over, and poor Johnson was lying humped up on the floor in a grotesque position—something like an inchworm.

The smell was very strong, and the Professor knew with a sinking feeling that it was too late. He saw the red-rimmed permit on the desk: "I certify that Professor Edwin Johnson is suffering from extreme depression and is entitled to take his own life without reprisal against his family, under Section 15862-C of the Survival Code. Rex Fillibert, M.D." And beside it was the prescription in almost illegible handwriting: "One auto-euth. pill, 5 mg. Non-refillable."

The Professor recoiled, shocked. He hadn't supposed Johnson would do it. He really hadn't. Johnson and he had come to the college in the same year, and had always been together on important issues. They had been godfather each to the other's children; their wives had been friends before Mrs. Johnson had died of cancer.

Poor Johnson! It had been too much for him, to be obsoleted by an electronic carrel. With another seventy years to go, he had given up.

The Professor felt pain around his chest. Then he knelt and straightened out the body. You were not supposed to touch a body, but Johnson didn't look comfortable that way. And wherever his poor soul was, he shouldn't have to look down on that.

He must have taken the pill quite a while before, for the body was already beginning to stiffen—and it was well known that the death pill delayed rigor mortis. The Professor wished he had kept in closer touch.

Johnson was a good man—or had been. Never a strong man or an assertive one, but

most certainly intelligent and beyond question conscientious. He too had liked to teach.

The Professor straightened him out and arose. He picked up the telephone and called the police. Johnson would make three who had chosen that way out on this floor within ten years, and the police were not astonished. "I hope you did not touch the death certificate," the sergeant said.

"No." The Professor knew the certificate was treated to receive fingerprints.

"We'll be right up," said the sergeant. "Will you come in this evening or tomorrow and sign the finder's affidavit?"

"Yes, I will."

"Relatives?"

"His son is at the South Pole base, and his daughter is somewhere in Asia. I think you'll probably find his complete papers in his wallet. I didn't look."

He left, feeling terribly depressed. It wasn't the fashion to be concerned about anyone who took that way out legally—especially an older person, since the world's population was overbalanced now with older persons—but he felt terrible.

The police came up the stair, and he waited to answer the routine questions. The coroner came and took the death permit. They took the Professor's name, address, and visiphone number, and said they'd expect him the next day.

The Professor went to his office and called Alice, who began to cry softly.

"He wanted it," the Professor said, trying to reassure her. "He didn't want to be useless the rest of his life." Who could endure being useless for seventy years?

He told Alice to meet him at the office at five o'clock, and they would go out for dinner. No, there was nothing to be done about poor Johnson; he had done it himself.

Richard Weeks came in with a drop-card.

He was very apologetic but he hoped the Professor would not hold it against him. The Professor took the card and signed it, then handed it back.

The boy said with a sly smile, "I suppose it really is a sort of insult for a student to drop a course—"

"Not at all," said the Professor.

"I decided to take the carrel course," said the boy.

"Quite all right," said the Professor, and waited until the boy turned and left. The little bastard had been determined to have the last word, hadn't he? . . .

The Professor went down to meet Stegmuller, and listened to his bright, brittle chatter for a moment.

"What did you say Mr. Bissell works at?" he asked.

Stegmuller glanced at him. "He's a steam-fitter," he said. "Forty-six years old, never married, never worked at anything else."

"But I understand he has the doctorate."

"Yes, indeed. Matter of fact, he has just about everything you can imagine but the D.D. He is sort of a professional student, I suppose. Never had time to go to college in person, but one of the first to join our electronic carrel courses. Since then, by inter-transmission arrangements, we have been able to get him into Harvard in a special program, into Yale under an archival course, even into universities abroad. Quite a fellow. You'll see."

They left the tube and walked a block, then up a short flight of steps in a very ordinary neighborhood.

"It's strange to me," the Professor said as they waited for him to admit them, "that he's never felt impelled to do anything with all his knowledge."

"As I told you," said Stegmuller, "we are not aiming at overt achievement."

Mr. Bissell was a very ordinary-looking man about five feet, seven inches tall, slender, with good hands and clean fingernails. He was soft-spoken, and the Professor began to relax. He showed them his carrel; he had a special model with a reclining bucket-seat, and he demonstrated it. There was a live tape on it, and Bissell played it back and forth a time or two.

"What's this course?" asked the Professor.

"A special course No. 385 in Extended Services out of Texas Christian University," said Bissell. "It's called the Judicial Interposition of Historiography."

"I'm not sure I know what that means," said the Professor.

Bissell shrugged. "I don't, either," he said.

The Professor shrugged. The man was unassuming, at all odds.

He showed them his library, the walls of which were covered with degrees of a dozen famous universities, and the Professor marveled that it could all be done in no more than thirty years.

"I don't quite understand," said the Professor. "You work full time and you said a good deal of overtime, and yet—"

Bissell laughed. "That's easy. I bought a recorder of my own, and I set the recorder so it will duplicate the tape in the machine. Then I can file the tape in my vault."

"You have a vault too?" asked the Professor.

Bissell laughed again. "I'm sort of a nut over this education thing. My father and my grandfather couldn't go to school past the eighth grade, and I was determined to make up for them."

They went into the vault, and the Professor saw row upon row of neatly labeled tapes—hundreds of them, thousands of them. He pulled one down and looked at the label: "Lecture 22. English

"This is a recent one," said the Professor.

"Yes, sir."

"What I can't quite understand," said the Professor, "is where you really got the time to study these tapes. When you are in a course like this, wouldn't you have to view the tape several times to really get it?"

"Not to pass the examinations," said Bissell.

The Professor stared at him. "I don't think I quite understand."

Bissell smiled. "I've always been good at examinations," he said. "I'm one of those who can seem to answer the questions without studying."

"Without studying?"

"Not much point in it," said Bissell. "They told me all I had to do was answer the questions and write a paper once in a while—and I'm pretty good at writing papers, too. It's just a matter of outguessing the assistant who reads the papers. You give him a little double-talk that he doesn't understand, and he'll always give you a grade. Not always the best grade," he said, "but a grade."

A great light began to dawn in the Professor's brain. "I take it you don't always listen to all the lectures," he said.

Bissell stared at him. "I haven't listened to a complete lecture in years. I record them and keep them for future reference—but I've never found it necessary to go back to them. Just answer the questions and write the papers. That's all they ever told me to do."

The Professor asked, "Just answer the questions?"

Bissell shrugged. "It's always yes or no or a five-way choice. Anybody can outguess one of those tests."

The Professor turned to Stegmuller and said gently, "Shall we go?"

Outside, Stegmuller paused to rub his forehead with his handkerchief. "I don't know what to say," he said.

The Professor said, "If I had built a career on something as utterly phony as this, I wouldn't say anything."

They got back to the campus, and the Professor said, "Didn't it ever occur to you that the atmosphere of the campus was something worth while?"

There was no answer as they walked up to the History Building. It was still only late afternoon. "There's one other thing," he said. "When you are educating people in this fashion, who is going to prepare the tapes for the next generation?"

Again, Stegmuller was taken aback.

The Professor went across the campus to the Administration Building, and asked to see the president.

Doctor Duncan smiled as he shook hands. "You've come to talk about the course, I suppose."

"I have," the Professor said.

"I take it you've come to a decision."

The Professor sat down. "There is not much point in talking about the advantages of personal contact for the student," he said, "since they are unmeasurable and we can do nothing but theorize."

Duncan sat back. He was twenty years older than the Professor and somewhat grizzled.

"However," said the Professor, "there are four items that I would like to mention. First is the low level to which a tape must be attuned, since it is aimed at a large and unseen audience over a period of years. Obviously it will be like the old-time television—trimmed of anything that might offend anybody. On the other hand, of course, a professor lecturing in person can have a great deal more freedom; he can also have the advantage of interaction with the class itself—and I think you are aware of the

psychic interchange in such a situation."

Duncan smiled. "When I was teaching," he said, "I found it to be true."

"Another item," said the Professor, "is the value of routine to the morale of any human being."

"I'm not sure I follow you," said Duncan.

"There is a different atmosphere that somehow—I don't know exactly how—is important to humans. The duty of arising every morning at a certain time, of shaving and dressing, of going to work, of doing all the things we complain about when we are working—these are somehow essential to a human being, much as he dislikes to believe it. It has been proved many times in prisoner-of-war camps."

"Sounds sensible," said Duncan.

"Without some such duty imposed from the outside—from a time-clock, perhaps—the human being will not continue to function. He will gradually drop his performance—except perhaps for a rather rare human being who can drive himself."

"And so you—"

"There is one more very important item," said the Professor. "A human being—especially a young person—needs somebody to know him personally, to encourage him, to scold him when he deserves it—in plain words, to treat him like a human being. And that is something a machine will never be able to do."

Duncan looked at him for a moment. "I take it you are not agreeing to cancellation of History 2A."

The Professor stood up. "Sir," he said, "there is still one more item that I think should be called to your attention. A lecture is an emotional presentation, a reaction between student and professor, a personal thing that cannot be transmitted through a machine. Even a semester's course is or should be an emotional presentation—a

dramatic production, if you will, that cannot be sustained by a student who comes home tired from work, flips on the tape, listens to it while he is eating a sandwich and drinking beer, or possibly even setting up a recording machine, leaving it alone for an hour, coming back and taking the tape off the machine to be filed in the vault."

"Do you think that happens?" asked Duncan, standing.

The Professor said, "I have just proved it."

"There should be better safeguards," said Duncan.

"Sir," said the Professor, "teaching of any nature is and has to be a personal interaction between two persons—parent and child, teacher and student. If you will pardon me, sir, a machine cannot take the place of a wife or husband, and neither can a machine take the place of a teacher. There are important personal reactions between human beings that must be maintained or we shall no longer be human beings."

Duncan looked puzzled. "I have had many reports," he said, "that show a high level of interest."

The Professor refrained from snorting. "You can measure a lot of things," he said. "Interest, emotional intensity, and so on—but, as Stegmuller himself admits, you can't measure learning."

Duncan pursed his lips. "You make out a good case," he said.

"I'm not talking for myself," said the Professor. "I'm talking for the next generation of students—before it's too late, before the machines and the technicians take over."

A buzzer sounded on the president's desk, and he answered and listened. Then he broke the connection and turned to the Professor. "I was out this afternoon," he said, "and so I have just heard the tragic news about Professor Johnson. You found

(CONTINUED ON PAGE 115)

# ENEMY BY PROXY

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## JACK WODHAMS

Illustrated by MICHAEL WM. KALUTA

*He'd been brainwashed, of course. But the question was, by whom? And why?*

FOR CONVENIENCE he shall be known throughout by the name of the man that he thought he was, Emil Stutser.

"WE'VE CAUGHT him—now what do we do with him?"

"He could be useful to us. If we could persuade him . . ."

"He'll take some persuading. You know what their sort is like—cold, ruthless and dangerous. It was sheer good fortune that he had the bad luck to be spotted by Tully straightaway. Anyone else . . . My god, had he infiltrated into our ranks!"

"But he didn't. And consequently we should try to turn the circumstances to our own advantage. Now, if we could get him to co-operate with us, we could learn a great deal from him, voluntarily."

"Him? Co-operate? Not a chance."

"No? I think it might be worth the effort. We have the drugs and the science."

"Drugs are unreliable. His compliance under their influence would be neither trustworthy nor durable."

"Ah, but with a different method I have in mind and the machinery we can bring into play, I think we could put a new technique to the test, don't you? It could be interesting and it would be at worst an abortive experiment. At best, it could be very rewarding."

"I don't understand—what are you proposing?"

"I am proposing that we give him special treatment, that we work directly upon his mind in an endeavor to change his personality, to in fact use the facilities that we have in order to convince him that he is someone else . . ."

I AM Emil Stutser. I am Emil Stutser. I am Emil Stutser. I was born in the village of Joudslo. I was born in the village of . . . Over and over the words hammered into his head, a soft insistent whisper that through repetition became a roar of basic facts endlessly pouring from earphones clamped to be unavoidable.

He could not move. He was awake and he was not awake, knew glimpses, moments, fragments. On a trolley, corridor lights. In a room like an operating theater. A heavy cap, metal, peculiarly wired, being set and fitted to his skull. A high-pitched rising hum. Piercing. A brilliant flash—to unconsciousness.

Awake again. "I am Emil Stutser. I am Emil Stutser . . ." Masked hospital figures bending over him. The helmet again. The whine to oblivion again. Trolley wheeling. Dazed. Brief moments of awareness. "I am Emil Stutser," a constant pounding into his brain.



A different time, the thing on his head—how many times? He could not count. He was floating. So many similar impressions, fleeting, uncomprehended, bewilderingly one after the other. It could have been minutes or days, or weeks, months, years. He was doped, surfaced only briefly to wonder, to inevitably know the strange cap, to be stunned once more.

HE AWOKE to the clatter of his cell door. He was fully clothed. He swung out his legs and slowly sat up as the cell door opened. Three men entered, one a guard in familiar uniform. The guard collected the emptied breakfast tray. The other two were in white, looked like doctors.

Did he recognize the one on the left as . . . as who? not the Director of the Institute, surely? No! The one on the right spoke, pleasantly. "Good morning," Killiker said. He eyed the departing tray. "You enjoyed your breakfast by the look of things."

The captive did not reply. He did not remember eating breakfast. Yet he was in no wise hungry. He licked his lips and waited. His tongue found a couple of crumbs.

"Now then," Killiker smiled, but his eyes were astutely intent, "we would like you to answer a few simple questions if you would. First—could you tell us your name?"

He stared at them with defensive hostility. "You know who I am. My name is Emil Stutser."

"Ah." Killiker's eyes gleamed. He did not seem displeased. "And where were you born . . . Emil?"

"In the village of Joudslo, in the Lower Byerlaine Province. You know all that," he sneered.

"Good, good, good." Killiker rubbed his hands. There was a keenness about Killiker, a shallowly concealed avidity, an undercurrent of anticipatory delight. It was



disturbing. "And what was your mother's name? . . ."

And so the questioning went on. And the prisoner became more reticent and clipped and puzzled as his interrogators shrewdly probed the seeming irrelevancies of his history. His inquisitors closely watched for his reaction and had about them a secret air of knowing, and they were undismayed when his replies became negative, or when he declined to answer at all.

After less than an hour the session ended and the doctors' took their departure in barely restrained good spirits.

**H**E HUNCHED into a corner on his bunk. He *was* Emil Stutser, he told himself. He knew damn well he was Emil Stutser. Of course he knew his mother's name. Of course he knew which school he'd gone to. Of course he knew which sports he played. Of course he had done his military service. Of course he knew how and where and why. Of course he knew what he was now. Of course he knew. Of course he knew. He was Emil Stutser. He always had been Emil Stutser. He ought to know who he was, oughtn't he? He knew beyond all doubt that he was Emil Stutser. He was. He *was*.

**H**OW THEY KNOCKED him out he did not know. He suspected gas. Once again broken consciousness of dreamlike events, of a cough, of a chuckle, of conversation indistinctly heard—"bonding", "supplanting erasure", "full capacity, Dr. Parrie"—and eyes over masks looking down, and the thing, prickling, affixed to his head.

With the terrible knowledge of his own inability to resist, in drugged passivity he could in no way deny them whatever they wished to do to him.

**H**IS DINNER-TRAY was removed. He had no recollection of eating, yet he burped

and felt his stomach full.

"Emil," Killiker said, "you have made wonderful progress. We are very proud of you."

"Yes?" Emil rubbed his eyes and shook his head. "What is it you want from me? What are you doing to me? What do you think you'll get out of me?"

"Emil, we want nothing from you," Killiker protested. "We are interested only in your health."

"Oh yes? Then why are you holding me? Why are you pretending to be K.R.A.? What do you hope to gain? You don't fool me!"

Killiker was bland. "Of course we don't. You are," and he looked amiably quizzical, "a member of the K.R.A. yourself, aren't you?"

Emil's hard eyes went flatter. "You know that," he said grimly.

Killiker had an irrepressible buoyancy. "Of course, of course. We are hoping to return you to your corps very soon. Yes, very soon now." Behind his benignity his gaze was penetrating. "We can't be too careful with an amnesia case found wandering in the street, now can we, eh?"

"If you are K.R.A. you should have identified me immediately from my record." Emil, trapped, knowing something was wrong, was desperately distrustful. The calm, the condescension of these men. They'd done something to him. Somewhere there was something very wrong.

"Oh, but we have, naturally. Everything's fixed. In a day or two now, when we're sure that you've quite . . . recovered, you'll be re-assigned." Killiker had his hands behind his back, and he evidently savored the situation. "We want to be quite certain that your . . . memory has been fully restored. You have been ill. In the K.R.A. we can take no risks with aberrant personnel—you

appreciate that."

Emil was baffled. Defiantly he said, "If you are K.R.A. then let me see my chief, let me see General Schrian. Take me to him. He can settle this matter quickly."

"Good, good, good," Killiker said genially, but his eyes were bright. "In a day or two you shall see him. You have nothing to fear, Emil, nothing. You have made splendid progress, splendid."

Emil found Killiker's professional confidence naggingly unsettling. "Why am I being held?" he asked again. "Why?"

"For your own good," Killiker replied soothingly. "A temporary measure. You're getting enough to eat? Enough cigarettes? Just relax, Emil. Regard this as a short holiday."

Emil found no comfort in his smile. There was something wrong, there was something wrong!

Killiker and his companion turned to the door. Killiker paused and turned back. "Oh," there was something infinitely sly in the over-casual way he asked the question, "have you ever heard of a man named George Rausen?"

Emil blinked. The name was totally unfamiliar to him. "No," he said.

"Ah." Enigmatically content, Killiker resumed his exit past the guard and the cell door clanged shut.

**H**E WAS Emil Stutser. He was. He was a member of the K.R.A. They had done something to him. They were not K.R.A. If they were . . . The guards wore the correct uniform. This cell was identical with others he was familiar with at other stations, but . . . It didn't make sense. True he had been transferred here for special duty and was not well known at headquarters. That is if 'here' was where the doctor said it was and was indeed headquarters. They should have his credentials. They could not be so

misinformed as to imprison one of their own.

Why was he being held? And they seemed so sure of themselves.

Emil studied the cigarette-butts crushed on the floor, the three or four around the hole in the corner. There had not been so many, when? yesterday? When was the last time? He could not remember smoking here any more than he could remember ever eating here.

More troubled than he cared to admit to himself, Emil lit a cigarette now. How long had he been here? The doctor had been evasive. Not long, he'd said, just for a check-up. Liar. They'd been working on him. They had plenty of time. But doing what? And Emil was frightened. The false kindness, the lack of pressure, the absence of pain—there was much that was intimidatingly sinister in the prevarications of his jailers. Smug. Smug bastards. They'd done something to him—but what?

Emil threw his cigarette to the ground and mashed it under his heel. They were not K.R.A. They *couldn't* be K.R.A. He was a K.R.A. man, wasn't he? Wasn't he? He was Emil Stutser. Why had that fact been driven into his head? What was the point? Of course he was Emil Stutser. He should know who he was, shouldn't he? Emil Stutser, no one else. How *could* he be anyone else? Amnesia they said. All right. All right. So pursuing his first given lead he had been sapped in the garden of the Chaloise House. All right. He had been sapped before. This time had he really lost his memory? He had woken to a nightmare, his own name being reiterated again and again into his ears, woken to snatches of unreal consciousness, whirling, over again, the headset, the headset, his name, his name. It was insane. It made no sense, it made no sense at all.

Emil stretched on his bunk, his face turned to the wall. If he was being observed

he would hide the perplexity that his face might reveal. He was Emil Stutser. Who was George Rausen? Why had the doctor asked that question? And what was the meaning of the self-satisfied smirk that the doctor had worn as he had turned away? What was so significant about that name? George Rausen? For Emil the name held no meaning whatsoever. Yet to the doctor it had seemed a great private joke.

George Rausen. The name *should* mean something to him. The name was important. Why? He delved into his mind, searched, hunted for George Rausen, but nowhere could he find a clue. And this, for some indefinable reason, he found to be the most troubling fact of all.

**H**E DID NOT remember falling asleep. He awakened to a scuffling noise beyond his cell door. He sat up on his bunk.

There came a light thud. Now there was scratching and clicking at the lock. Emil stood up. In the silence the scraping clatter of the lock-tongues riding hard springs over their cams sounded whip-crack crisp and loud.

The door opened. A partially-crouched man entered, expectant, keyed. Black pants, sweater, stocking cap, greased face, unmistakably commando.

Emil tensed. This man was a subversive, an enemy of the State! But on an instant the man's teeth flashed in his darkened face. "George! Right first time thank god. How are you? Can you walk?"

Emil was startled. "Who are you? What do you want?"

"Uh? George, what's the matter with you? I'm Johan, you know me, don't you? Are you sick?" He spun at a noise from outside. "We haven't much time."

Another man similarly clothed appeared in the doorway. "Found him?" he asked urgently.

"Yes," Johan said, "but he seems to be doped."

"George, come on, we've got to get out of here." The man came and took Emil by the arm. "What's the matter? Look, if you can move, let's go, George, for Pete's sake!" He jabbed indication with his machine pistol. "Johan, take his other arm."

Suddenly for Emil things began to click into place. He did not know how or why, was bewildered still, but something, whatever it was, was offered here, a chance to find out. There was something wrong, drastically wrong. These men were plainly rebels, therefore enemies of the K.R.A., therefore *his* enemies. Yet they were treating him as a friend, a well-known friend, an important friend.

"George, come on, please!" Johan pleaded.

Emil stumbled forward, his mind spinning. "All right," he said, "all right." He saw the sprawled legs of the killed or clobbered guard as he stepped to the cell doorway. And then all the lights went out.

**"C**OME ON!" Pushed, tripping, Emil left his cell in a rush, shoving out with the others. "This way!" and a hand on his back, and he was hurried blindly along a stygian passageway. "Blast! Right turn. Careful! steps here. George, are you okay?"

Emil's feet found the steps. "Yes, I . . ."

Behind them a shout, the bright ball of a flashlight, a shot.

"Quickly!" They scrambled down the stairway and Emil next discovered his ankles being twisted as he trod on scattered rubble. "Through here!" And magically in the wall a rough hole appeared, and he could smell the *outside*, really fresh air, an area of not-quite-so-dark, cool quiet night.

Emil grasped rough broken brick edges, clambered through the hole, onto dirt, pavement, and a touch on his elbow and he

was running with the others, four now, a scamper of feet. A blacked-out car, doors open, fumbling, bruising, flailing into the back, jerk, slam, tumble and tangle. Away. Away, sorting themselves out, hunching, hanging on as the car swayed around corners.

And very soon, after some swift zig-zagging, hard braking at a special corner and, "This way, George," and out, a trio, padding down a gloomy narrow alleyway, the screeching wrench of tires behind them with their heels barely clear. Stopping at a gateway, a signal, gateway open, across a yard, into a building past a look-out, along to a square of light in the floor. Down a ladder, unseen hands closing over the top after the last one. Standing at the foot of the ladder, gazing about a large low room broken by stout arched pillars. There was soft yellow light and shadows.

There was a littered table, and behind the table a man, a man that Emil knew, a man Emil recognized as being one most wanted by the K.R.A.

"GEORGE!" His eyes aglow with delight, Russ Lymborg swung up from his chair, came around the table in a rush with his hands out in welcome. "George, they got you out!"

The man who thought he was Emil was transfixed. He stared as his arms were gripped and squeezed, his hand taken and pumped. "George, it was a gamble. By god, but it's good to see you!" Then, noticing lack of response, "What's the matter?" Russ queried the flanking couple. "Is something wrong?" Back to Emil, "Shock, eh? Yes it would be. Didn't you get our message? Come, come, sit down. Johan, the cognac, glasses."

Emil did not resist guidance to a seat by the table. Johan poured drinks. The group settled around the table, easy now and

jaunty with success. Russ Lymborg raised his glass. "A toast to your escape!"

They drank to that, and Emil drank to that, suddenly needing the brandy very much, suddenly shivering and needing both hands to hold his glass steady. Emil drained his glass, gasped, shuddered, and felt a little better.

Russ was looking at him, awaiting, eagerness in his face. "How do you feel, George? How have you been treated?"

Emil put knuckles to his mouth. He felt caught with a spasm of vertigo. What could he say, what could he do? He didn't know these people. They thought he was George, a friend. But he was not. He was Emil Stutser of the K.R.A. Wasn't he? He was. How could he be George? Prison, treatment, yes, but . . . not a thing like that, not lose an identity, transfer so completely. No. But . . . who was George? At sight they might take him for George, but inevitably he could not play the role of George because he simply did not know how George thought or acted. He could not fool them for very long. Tell them the truth, that he was a K.R.A. man? They would shoot him. And was that the truth? Was he really Emil Stutser? "They . . . They gave me mental treatment. I had amnesia. I . . . couldn't remember who I was. I still can't."

"What?" Russ was set back. "You mean you've lost your memory? George, you know me, surely? You know where you are?"

"I . . . I'm confused." Uncharacteristically, Emil felt like crying. Perhaps he had been under greater strain than he knew, perhaps the drink helped free the tautness of his mind. In but a moment he was overcome with a great sense of relief, and in his heart he knew that he was with friends, good friends, and that somehow, in some way, he was *not* Emil Stutser. He was

not Emil Stutser and never had been Emil Stutser.

"Your name is Lymborg, Russell Lymborg," Emil said. "You are one of the most wanted men in the country. You are one of the leaders of the so-called Democratic Reformers." He paused wide-eyed, feeling uncommonly lost. "Who am I?"

"You?" Russ raised spread hands. "You're George Rausen, who else? Don't say that you don't . . ." and now concerned, "George, can't you remember anything? Have they done something to you that . . .?"

Emil put down his glass and held his head. His brain was churning. "I am Emil Stutser. I know . . . I am Emil Stutser. I am your enemy. I am a member of the K.R.A. I . . ." He looked up, appealing. "I feel like Emil Stutser. I only remember as Emil Stutser. I cannot remember myself as George Rausen at all."

Russ blinked. He exchanged glances with the others. "Emil who? Stutser? You? In the K.R.A.? Ha!" He seemed inclined to laugh, but Emil's expression stayed him. Instead he displayed wonder. "You're not joking, George, no. Well I'll be . . . You think you're someone else? But this is fantastic. You were in jail, weren't you? Look, no, let's get this straight. I don't believe they could have indoctrinated you in a couple of weeks. Now tell us what they've been doing to you, George."

And so haltingly, in the manner of a man unsure of his self, with a weird detachment even, Emil recounted his experience.

**R**USS LYMBORG paced up and down, frowning. "Amnesia. Could have been genuine amnesia. A knock on the head or induced. And then, somehow . . . It doesn't seem possible." He stopped to stare broodingly at Emil. "But I know damn well

you're George Rausen. So somehow they've . . . cleaned or suppressed your mind and imposed another upon it, written in an entire new personality upon a clean sheet." He resumed pacing. "But the real George Rausen is still there," he growled. "I can still see it, underneath. We must get it back out." He glared. "Can you remember nothing at all?"

Emil now felt very tired. "Nothing. Everything I think is Emil Stutser. Over and over again."

"H'm." Russ softened. "You look dead beat." He glanced at his watch. "It's nearly four. You'd better get some rest. Take one of the beds at the back. You'll have to lie low for a day or two and give them time to follow the trail we've laid to the border . . ."

**T**HEY SAW HIM to a cot, virtually tucked him in, produced coffee as a nightcap, and a couple of pills to help him sleep. He seemed very glad to close his eyes, took the pills, drank the coffee, said goodnight and rolled, set his head into the pillow, pulled the blankets to his shoulder.

Minutes passed.

"What are we going to do, Russ?"

"Damned if I know," Russ answered. "Queerest thing I've ever come across. George Rausen of all people. Helluva thing."

They moved away from the bed. Emil listened. He kept his eyes closed. He worked the pills from under his tongue, poked them out the corner of his mouth to fall by the pillow for later removal. He risked a peep. Russ, Johan and the third man had returned to the table. They kept their voices low, but by straining his ears Emil could hear much of what was said.

"If he can't remember who he is, the job he was doing . . . useless," Johan said.

The third man's contribution was a

mumble to Emil.

"It was not a waste of time," came Russ's quiet but clear tones. "They were obviously priming him to work against us. Diabolical."

"How could he be used as an agent against us if he's forgotten everything?" Johan hissed. "If he doesn't even remember the ordinary contacts?"

"They would know how to use him," Russ said. "They couldn't leave him any of his memory, could they? You know what George was like. If he remembered who he was they'd have no chance. No, the cunning devils seem to have erased every vestige of identity he had. Then later, perhaps, they intended to send him back, as *George Rausen*, working for the K.R.A. playing a character that was really himself. See? Wouldn't that have been perfect for them!"

The third man rumbled.

"We'll have to see," Russ said with some sharpness. "He *knows* something's been done to him. He never was a fool and he is not a fool now."

"Do you think we might . . . and jog him back?" Johan asked.

"Maybe. Maybe. We can try," Russ said. "Photographs, familiar things. But our best bet is Sandy."

"Sandy?"

"Sandy. She'll reach him if anybody can."

"You going to send for her?"

"I already have."

There was silence for a while. Then Johan spoke very soberly. "What will happen if he doesn't remember who he really is? Suppose he can't shake the impression that he's a K.R.A. man? He'd be . . . too dangerous to keep around, wouldn't he?"

"It won't come to that. We'll get him back," Russ growled fiercely.

The third man made a muttered contribution.

Russ conceded the point with a sigh. "He'll have to be watched, yes. But no pressure. After what he's plainly been through . . ."

THEY WERE his friends. There was understanding and compassion in their eyes, thoughtfulness and consideration in their actions and in their speech. Emil felt cared for, cared about. They had taken risks for him, now were anxious for him, were saddened by the terrible novelty of him.

Awaking, cleaning and refreshing, Emil met sympathetic courtesy. Clean linen, civilian clothes, the shirt unobtrusively laundry-marked 'G.R.', and Emil came to late breakfast feeling different, altered.

The meal was rough but highly satisfying, the company pleasant if mostly contemplative. After the meal a hanging silence.

Russell Lymborg carefully took time to fill his pipe, to make an unhurried ritual of its lighting. And Emil became nervous again, tried not to think, could not help thinking. This was not real. To doubt that he was Emil Stutser was not logical, not logical, but . . .

Russ puffed out a cloud of smoke and shook his hand to deprive flame of the tiny remaining nub of match. "George, you have presented us with quite a problem. It seems simple enough on the face of it, but the more thought given to the matter, the more complex it becomes. A man does not have to lose his memory to know what hell it must be. But to lose it and have it replaced by another, well, that is so Machiavellian that it defies conception. If they can do this thing, what preventive measures can we take? How can we prove to you that you are *not* who you have been impressed to think you are? How can we restore the real you through the dominating layer that has been stamped onto your consciousness?"

Obviously you think you are you, but we know that you're not," he said helplessly. "It's . . . Frankly, it worries me stiff. Could it be done to me, to any of us? The more I think about it, the less sanguine I feel."

Emil, very finely, began to perspire. "I . . . feel so certain . . . that I am Stutser. Everything . . ."

"A memory. The brain has a vast storage capacity." Russ leaned forward on his elbows, his pipe cupped in both hands. "George, I'm convinced that they cannot have eradicated your true personality completely. Somewhere, made dormant in your mind, is your true identity. What we must do is try and trigger your recollection. Here," he reached into his jacket pocket, withdrew a small bundle, "these are some of your things that we have got together for a start."

Emil took the packet. He hesitated. Then he slipped off the binding with a faint touch of eagerness.

Russ shifted his chair to bring himself more conveniently to overlook. "Your silver cigarette lighter," he said, "your aquanaut's watch and dagger. The inscription . . . no?" Russ peered shrewdly, hopeful. "Your Medal of Honor? Your Cross of Merit? Look, then, your boxing medallion, your gold and silver shields for athletics—you must remember winning them? You remember taking the Navy Cup? George, it's not possible." Russ became distressed. "Look, read the Citation. See here your false Swiss passport? And your secondary papers, letters, everything."

Emil felt numb. He leafed through the passport. His stamped likeness was stiff, expressionlessly formal head-and-shoulders—but definitely him. The battered passport named him Grigor Alfred Rancen, geologist, Swiss citizen. Emil knew the cold

of total absence of recall.

"Your personal photographs," Russ said, and he set a thick digit to spread the assorted collection. "Take a look at them." He dragged at his pipe, heavily concentrating and clearly perturbed.

Now with a measure of reluctance, Emil began to leaf through the snapshots and portraits. Russ sat solid, watching, teeth clenched on pipe, a rather ponderous figure that even so Emil felt to be hovering in expectancy.

Emil recognized none of the people in the photographs except himself, himself posed against backgrounds, with people, in dress, that he never knew. On skis, and in whites seemingly aboard a yacht, and sunbathing with two young women, and in a carnival hat dancing, and solemnly shaking hands with a dignified much-decorated gentleman at an evident ceremonial parade, and his arm about a serene and gentle-looking motherly lady, and a bent and cracked ¾-profile of himself as a younger man, and a slightly fuzzy full-length shot of himself in uniform, naval officer's uniform?

Emil put the photographs down and pushed them away, as if in repudiation, suddenly very afraid.

Russ removed the pipe from his mouth. He squinted. "Nothing?"

Emil shook his head.

"Good God." Russ arched forward. He stabbed with a finger. "Don't you even recognize your mother?" His finger sorted. "Your sister Isobel? This one, taken only a few months ago when you were resting at one of your father's hotels on the Costa Brava? And this one—surely you remember Sandy?"

"No." And Emil pulled back from the table. "No!" He put a hand to hold his forehead. "God, what's happened to me?"

And now there was a creaking and banging, and all eyes turned to the opening



trapdoor in the ceiling.

An attractive pair of legs, a woman stepping with quick care, to turn at the bottom to alertly search with her eyes, to gasp, to fly her hand to her mouth and, stricken, to cry in unbelieving joy, "George!"

EMIL SEEMED to have no recourse but to hold Sandy. Awkwardly, deliciously, she pressed herself against him, touching him, touching his hair, marveling at his presence, so patently thankful for his return.

Emil was embarrassed, discomfited and yet, paradoxically, was mindful of an unwillingness to renounce such an agreeable prerequisite. She kissed him, hugged him, pressed her cheek to his. "Oh George, thank God you're safe, thank God, thank God."

Russ coughed. "George?" He coughed again. He nodded. "George, you do remember Sandy?"

Emil soaked in Sandy, her perfume, her touch, her sweetness—and he could have wept. How could he ever have forgotten such a woman? "Russ, I . . . I don't know, Russ. I just don't know."

Sandy cocked her head. "What's the matter? George, is there something wrong?" She queried Russ, a note of alarm in her voice, "Have they done something to him?"

Russ in despair knocked out his pipe and began to refill the bowl. In terse bitter sentences he told Sandy the story.

SANDY DID NOT want to believe it, refused to believe it, was forced to believe it. She gave way to lamentation, made heart-rending plea for Emil to remember, swung to denounce the forces that had rendered him so. She swore at last that she would do her utmost to undo the vile work that had robbed her man of the memories

that they shared. She would not, she vowed with pretty determination, allow them to get away with it. And then, in a pause that seemed to reveal the poignant tragedy of the whole situation, she broke down, buckled to Emil's feet and, clasping him about the knees, sobbed as though her heart would break.

"YOU REMEMBER your childhood—as Emil Stutser?"

"Yes," Emil said tightly.

"Your youth, your activities, your jobs, your training?"

"Yes."

"Uhuh." Russ tapped his teeth with his pipe-stem. "All the details, eh? Small things, big things, everything?"

"Yes. To all intents and purposes I am Stutser. I *feel* like Stutser. I *know* I am Stutser." He wiped his face. "And yet . . ."

"Emil Stutser is a real person, obviously." Russ pointed his pipe-stem. "What you have is an exact copy. And just as they could not suppress only a part of your old memory, so they could not implant in you the partial memory of someone else. The one saving fault, as I see it, has been in their inability to alter your *innate* character. This Emil Stutser, from what you say, is a man of basically inferior caliber to you, and your mind, even under these circumstances, can recognize that the man you have been made to think you are cannot be reconciled to the man that you *know* you are. George, you cannot help being yourself, more acute and alive than this . . . this Emil Stutser ever was."

Emil struggled with it. There were so many conflicting aspects.

"And having to give you an entire new memory from A to Z could be one of the biggest flaws in their scheme," Russ continued musingly. "George," and he

thoughtfully drew on burning tobacco, "if they wanted to convince you that you were a K.R.A. man, then it is unavoidable that they have supplied you with a great deal of inside information. So, ha, as this Stutser fellow . . . George, God, George, if you know, hell, but . . . this is mad. If you don't know who you really are, and if you think . . ." Russ stomped in frustration. "We've got to get you back, and at the same time try to keep your present memory intact. It could be very valuable."

"It is," Emil said. Now anger at his condition settled upon him. The cold hard implacable streak in his nature found cause enough to assert itself. "There is much that I can tell you. They will pay for what they have done to me." His hand resting on Sandy's head, his eyes bored savagely into Russ's. "For one, I know where you can lay hands on the Fienslit Report, other useful documents and ministerial copies of very confidential data . . ."

**E**MIL WAS ABLE to provide much information of inestimable worth, but that most fortuitously given was of the filing procedure in a hitherto unknown secondary record office located in the country against emergency, against internal disruption and necessary incineration at the main center. To speedily acquire such information was an irresistible temptation—and also there was the chance that details of new treatment of prisoners might be obtained. The man Emil Stutser had recently been one of the officers charged and entrusted to keep this discreet establishment secure. Now what the man Emil Stutser knew could be employed to discover the truth of Emil Stutser while also providing the Democratic Reformers movement with priceless intelligence.

Emil's acquired knowledge of the locale and duty system pertaining at the chateau

where the records were kept greatly facilitated the formulation of a plan to effect the liberation of some of the more intriguing items. To strike quickly and accurately in one bold venture. Emil himself, now scorning cautionary counsel, undertook to lead the way.

**A**T 10:10 pm the guard making routine outside survey found himself expertly waylaid. Assuming his re-entry permit, shadows slipped into the chateau, preparedly overpowering resistance in the direct path they chose to tread. The alarm system nullified, intimate knowledge and surprise were their potent allies. They rapidly reached, cut into and raided those sections Emil indicated as most worthy of attention. They loaded themselves selectively, a team of depredators going to and fro on swift whispering feet. Emil directed from point to point.

Unexpectedly an unrostered enemy appeared. In loosened tunic he stumbled upon the scene as Emil pushed-to a shattered door. He gasped. "Here!"

Emil spun. It was Torthmann. Emil's arm arced.

"Emil!" Torthmann cried, and crashed back stunned from the blow from Emil's revolver butt.

Johan came up. "Come on, we've got most of it," he urged, and he and another headed away with bulging holdalls.

Emil took a few steps, to halt and turn back. The rearguard, checking through, noticed, and instinctively took cover.

Emil gazed down at Torthmann. A moment blank, frowning, a jarring fact to grapple with. If . . . If Torthmann recognized him as Emil . . . Emil stared after the retreating figures. "Hey." And louder, "Wait there!" and he raised his gun.

A blackjack descended and the scene jumped and reeled before Emil's eyes, and

he pitched forward, the tiled floor rushing to meet him in a race against unconsciousness.

A VOICE, harsh and rasping. "For the last time—confess! Admit to your crime and your name."

"But I can't remember, I tell you!"

"You lie! Your name is Emil Stutser. The deceit of your convenient claim to forgetfulness does not fool this tribunal. Your persistent denial of your own identity is regarded as an absurd and desperate ploy to escape the consequences of your despicable and treacherous actions. You know who you are!"

He clutched the rail in front of him. "I don't! I don't!" This was crazy, on and on—could they not see? "I tell you I don't know! I just don't . . . don't remember. Please," time and again he had reiterated his state—they did not understand, would not understand, refused to understand—and frighteningly he still stood accused of a capital offence of which his mind could recover no knowledge. "Please, you must believe me. I do not know!"

"Enough! Your puerile stratagem exhausts the patience of this court. Maintaining the pretense does in no wise detract from the clear evidence of your known complicity and participation in acts directly aimed at betraying and undermining the lawful government of the State. The damage you have caused is

incalculable and the repercussions are already alarmingly evident. In no way can you be absolved from the responsibility of what plainly was an enterprise that had your full cognizance and cooperation." He paused. "Once again—Emil Stutser—*will you confess to your crimes?*"

And wildly, pathetically, Emil could only protest, "How can I? How can I? I don't know, I tell you, I don't know!"

TAKE AIM!"

It could not be right. It was not real. They could not do this. They could not do this, not to a man who did not know who he was, to a man not consciously guilty of any crime. They could not, it was so unfair, so unjust, so unbelievably wrong. It could not be true. It could not . . .

"Fire!"

RUSSELL Lymborg studied the bowl of his pipe. "We just got word. Emil went to the firing-squad this morning."

"Hell," Killiker said. The news depressed him. "Poor devil, they wasted no time. Afraid we'd soon get to him." He brooded. "I wish I could feel more pleased with myself. It was all right as an experiment, interesting. It was almost fun for a couple of days, hammy even. Painless manipulation, and aren't we clever? But it has a recoil."

Killiker gazed into space. "How tenuous is our grip. I wonder who he really was. I wonder who any of us really are . . ."

—Jack Wodhams

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ON SALE IN DECEMBER FANTASTIC—SEPT. 29th  
KEITH LAUMER'S stunning sequel to *AXE* and *DRAGON*:  
*THE SHAPE CHANGER*, BRIAN ALDISS: *CARDIAC AR-*  
*REST*, R.A. LAFFERTY'S—*BEEN A LONG TIME*, BARRY  
N. MALZBERG'S—*THE NEW RAPPACINI*, plus other new  
stories and features.

*Gerard Conway is another name new to these pages, but comics fans may recognize him as the author of scripts for National and Marvel comics. This is his first sale to a science fiction magazine, and one which presages an important new talent in our field. You'll be seeing more of him, here and soon. (You'll also find his second story in next month's FANTASTIC.) Herewith, a mosaic of a complex and tortured tomorrow—*

## THROUGH THE DARK GLASS

GERARD F. CONWAY

Illustrated by JEFF JONES

WHEN Collin returned home from his first day at Educontrol, bubbling with eager tales of exciting discoveries, he found his sister, Rita, age six months, on the floor in the living cubicle; also in a long red smear which arrowed across the wall to the twisted form crumpled in a corner.

His father found Collin kneeling beside his mother's body in the fresher by the kitchen console. Subsequent autopsy reports confirmed that her death had been caused by the twin slashes across her wrists, which the police speculated had been inflicted by a sliver of broken glass from the shattered mirror.

The reports also revealed that Mrs. Haddings had been two months pregnant with her fourth child at the time of her death. The District Attorney's office initiated a full investigation into a possible Paternity Case against her husband.

Mr. Haddings was not available for

comment.

IN Davistown, Nevada, a gas main exploded, killing fourteen people and injuring ten others. The accident was attributed to the Public Computer Control which coordinated all public service operations in the recently modernized city. Realizing the difficulty in seeking vengeance on a machine, the mob formed after the disaster descended on the local Relief Center in the un-mechanized ghetto area to the north of Davistown proper, killing the two civil rights workers in charge, and burning the sixty-four year old Center to the ground. Possible motivation for these actions is still uncomputed; the mob was last seen headed across the dust bowl in a caravan of three Chryslers and a battered Ford pickup, somehow overlooked in the steel reclamation drive of two years ago. An observer on the scene reports one of the

mob to have said, "Damned redskies. Kill women and children. Damn 'em." By this time the mob was well-armed with riot guns from the sheriff's office.

**E**LLEN Mechen disappeared Tuesday, May 20, while on her way down the corridor to spend her birthday with her friend, Margaret Simmons, also seven years old.

Four days later her hysterical parents received a call from the M.P.B., which informed them that the girl had been located floating in the waste tank of an apartment complex thirteen levels below.

After shooting his wife, Mr. Mechen placed a bullet in his own brain. Both bodies were shipped immediately to the complex's morgue, where they await identification by next of kin.

**M**ARTHA Hemmings of 369-BD, West Farms Complex, was gang-raped in the roof park, then beaten to death. Her Social Security pension check remained uncashed in her handbag, a brown ersatz leather shoulder purse ten years out of vogue.

#### *LocOp Report 1390: Mind-Tap*

Davis bent over the kill, skinning the matted hide off the blunt-snouted rodent beast with the dulling edge of his knife. He cursed when the blade slipped and skinned into his thumb. Sucking at the wound, he rested back on his heels, listening with half-attention to the rustling night sounds around him. New Delhi was the worst trouble area in the East; Davis had ceased to bemoan the accident of transport that had marooned him in the death-city quite some time before, after his third kill. That one had been tough, fierce, and the fury of the fight had burned a scar in Davis' mind. The business of survival was all that mattered now. Anger and frustration were nebulous entities which didn't fit into the new mosaic



of priorities. First, stay alive. He'd seen that in the eyes of the other man, and he knew that others would see it in him. Everything was a threat. Every sound, every motion, every silent whisper of the night. Few things mattered, least of them, thought.

The sting throbbing a red line along the edge of his thumb was fading, becoming a background discomfort to join the others: the persistent itches, the minor agonies of twisted muscles, the cramp of knotted pain permanently etched across his middle. One lived. That was all.

He licked the flap of skin back into place, rubbed it gingerly across his stained sleeve. Better.

*A sound . . .*

Davis turned away, slid into a crouched ball against the rubble of concrete ruin. Listening. The sound came again: a crunch of gravel underfoot, the whistle of heavy breathing.

*Food.*

He stared up into darkness, the shifting shadows of night; he watched as one shadow framed itself as a black silhouette against the battered grey moon hung in a sky stained with sooty clouds. Like a statue formed out of the fabric of night, the figure held silent, staring at something in the distance.

Davis didn't think. Stealth was the key, a smoothness, a flow of shadow against shadow, from dark to dark, moving silently, touching and not-touching the chunks of broken concrete. This had kept him alive, not strength, not cunning. He'd always been a little more quiet than his prey, a touch of nightblack against night. He moved lightly, slipping to his feet, pacing slowly forward . . .

The figure half-turned, brought up a hand.

Something caught the moonlight, glinting. Too late, Davis tried to dodge

aside, and the knife sank up to its hilt in his abdomen. A knife. Davis lunged forward, shrieking wildly against the pain, grappling with a thick-muscled neck, and then the icefire slipped in, cutting upwards between his ribs, touched—

—scarlet filling, where once was thought, Davis died.

The pack fed well that night.

**F**IGHTING broke out in Liverpool. The supply train was overturned, the boxcars broken into. Forty people were killed. Seventy-five injured. Two tons of frozen synthameat intended for London disappeared into the balmy twilight.

### *LocOp 8954: Agent Report*

I dropped the papers, stared across the desk at the black-garbed man with the thin lines of fat sagging down in limp pouches along either side of his chin. He shied away from my gaze, fingered the rim of his hat nervously, working at a knot of loose fibre that had come unwound along the edge of the brim. I studied him, allowing the sour expression on my face to settle into place, become a faint glare of disapproval.

He was in his middle thirties, short, once heavy-set, now vaguely lean, blurred, with loose sacks of skin draped in wrinkled, tired folds.

(We are all feeling the effects of the Ration, I suppose. Absently, I wonder how the body I now tenant appears to his eyes. Gaunt, perhaps, with hollowed eyes. I tend towards choosing the saturnine ones. No matter.)

Black-haired, receding, a wrinkled, pinkish brow, small, deep-set eyes that rolled, darting furtively about, always with a downward, humble cast. Assumed? No. A frightened look, from a frightened man.

A line: *Yon Cassius has a lean and hungry look.*

I shrugged it off. Allusion has become a big thing with me this decade. At any rate, it certainly couldn't apply to Dran, I reminded myself. Taking up a felt-tip, I examined it thoughtfully as I spoke.

"Father, you don't mean this requisition *seriously*, do you?"

(There are ways. Ways of phrasing to test the will of those being questioned. The use of language reveals. I believe they call it intimidation.)

Blinking, reacting to the tone of my voice, he seemed to curl in on himself. (*Back to the Womb?*) Yet when he answered, his voice was firm. This surprised me: it indicated something I hadn't seen in him. "The community needs the supplies. We must have them. You, the government—"

I slapped the papers. "Frankly, Father, I'm more than a little astonished that a man of your responsibility would even *consider* filing a request of this nature. The medical supplies alone—"

"Yes, yes, I know all that," he broke in, hoarsely, "But the barbiturates are *important*. We have—we need them for our work. To do our work. The strain . . . you can't imagine . . ." his voice trailed off; he looked away, fumbling with his hat, looked up at me again earnestly. "Don't you understand? It's urgent."

I watched him carefully. I'd allowed myself to misjudge him on the basis of his physical appearance—a mistake. Mistakes should be few, *were* few, because of the nature of my studies. Yet . . . there was a form of power within this man; submerged, perhaps, but present. It drove him in spurts of temerity.

I sighed. "I'm afraid the problems of your religious community are outside my jurisdiction, Father Dran. I can supply you with the normal food and drug rations, on an individual basis, of course, and perhaps a few implements. However, requests such as

these," —I waved a hand at the white and yellow sheets— "are simply out of the question. I'm sorry."

"But you don't *understand*," he said, rising shakily to his feet, "you don't understand at all. Our problems *are* the government's problems. We provide the people with moral support, lend them spiritual aid and succor . . ."

I smiled gently.

"Do you honestly believe that, Father?"

"Yes!" It came out as a hiss between tightly clenched teeth, bitten off; fierce: here was a man grappling with a concept as one falling grabs at air. Afraid, yes, afraid to admit his fears. Seeking . . . *something* . . . in his faith. I eyed him thoughtfully. Perhaps . . . no. "Yes! It is our God-given duty, our Holy Obligation. It has always been this way. Always. You must help us . . . we need . . ."

"I'm afraid I can't agree with you, Father," I cut in softly, "and even if I did, my hands are tied. The regulations regarding Welfare are very strict in this matter. The church is a discredited organization. The state can hardly treat its members any better than it does the ordinary citizen on the dole."

I stamped the requisition form, held it out to him.

"Request denied. Again, I'm sorry, Father."

He stared at me; his lower lip quaked. For a moment, I thought he'd cry. But, somehow, he managed to dreg up a bit of strength; wordlessly, he turned and padded from the room.

His reactions interested me. I could see something of what was underneath. I wanted to see more.

Waiting a few moments after he left the office, I shuffled and reshuffled forms, a nervous habit I'd picked up from my host body. Before I'd occupied him, he'd been a

simple, timid man, drawing whatever sense of authority he possessed from the power structure he represented. For my purposes, ideal. His life was so bland, so colorless, he'd probably never miss the few days I'd plucked from his existence.

(Then I removed myself, suspended time/space for an instant, relocated in the hall outside the office marked in plain grey stencil: *Quartermaster, 496-B Complex Westbury*. Inside, the human returned to his processing, oblivious to the one-week gap in his life. I looked about, selected a passing workman in drab blue coveralls moving along ten feet behind Dran. I slipped into his body, sinking into control of his motor reactions, then his will.)

Dran seemed to scurry along, moving in quick, hurried steps towards the lift-bank. I followed, stretching my pace with slow, lanky strides, stepped into the tube just after him. We sank fourteen levels, a soft, whispering breeze and a scent of disguised lubricant oil ruffling the tannish beard curling across my jaw. Dran left the tube at level 482, twenty levels below surface, disappeared around a corner. I continued after him.

#### *Excerpt:*

Talks with the Ilaist peace mission, Houston sources report, have been temporarily suspended pending investigation into Ambassador Ilik-ou's report of alleged atrocities by Confederation forces on Deneb-II. When questioned for details by the press, the Ambassador's aide proved reticent, saying, "Of these matters there is little more to be said by Ilaist. Is now Confederation which must speak."

Commander • Atworth of the Confederation First Mission, when confronted with the Ambassador's allegations, called them "another damn spider lie." Senator Jameson of the

Northam Alliance referred to the accusations as "grave."

#### *LocOp 8954: Agent Report:*

We took the slipway to the tubes heading northward out of the city, rode in silence together in one of the two-seating cars. I don't think he even noticed me. Neither of us spoke during the fifteen minute trip.

He left, making his way through the crowded terminal for lower Boston, up several lifts, across another slipway. I wondered faintly where he was heading. I hadn't examined his requisition form that closely for address. We passed through the Black sector, past a series of small restaurants, a few private shops. Dran seemed buried in thought; he jerked upright suddenly at a crosspath, looked about, took the intersecting walk, moved off into a darkened corridor, down into the lower rent-level.

We came at last to a small church-complex. Dran keyed a code out on the punch-board, stepped inside. I waited a minute or two, rang the visitor's alarm.

"Yes?" He looked up at me through the view screen.

"Father . . ." I worked my features into an expression of internal confusion. "Father, could I speak with you?"

He blinked. "The official hours—" then he broke off, sighed, letting a smile crease his lips. "No matter. Just a moment, young man."

There was a pause, as he checked something out of the sight of the screen. He looked up at me. Something occurred to him, a frown lining his brow. "Didn't we—"

"Yes," I admitted nervously. "I followed you here. Father, please . . ."

He nodded. "Of course." The door hissed open, and I moved inside.

There was a narrow lobby, blank, bleakly



furnished with plain-cushioned, backless chairs pushed up against featureless walls. Beyond an open portal, a small chapel glowed with a diffused golden light. My footsteps echoed softly as I approached the dimly-lit altar, looked up at the familiar six-armed figure, the traditional silver cross. I inclined my head forward slightly, a hesitant bow.

"What is it you wish to speak about, friend?"

I turned. Dran stood silhouetted in a doorway to my right, white robes replacing the black street clothes he'd worn to the Quartermaster's office. He was in the role of priest now. It carried in his voice. Where the clerk who'd been my host had drawn his authority from the structure he was within, Dran seemed to draw his from inside himself. He stood somehow straighter, somehow stronger. There was a tilt to his head, a cast to his features.

(It is strange: after all the time I'd spent with humans, it still remained difficult to adequately express the way their attitude affected their bearing. Dran hadn't changed physically; it was a change within him, that shone through as sunlight in a shadow-mist.)

He paced slowly towards me. I felt a compulsion to kneel from within the host-body. I fought it, compromised with a slight bow from the waist.

"You are not a follower of the Way?"

"No, Father. I am still but a searcher."

"We all search. Some find truth in the Way, others in different things. But these . . . are these the things you came to discuss?"

"I seek aid, Father."

"Aid? In what way?"

I let my face assume an expression of confused longing. "I wander . . . I search . . . and I find nothing. I come to learn. Will you teach me?"

"Learning can not be taught. True learning comes from within." He brought his hand up to his chest. "From the soul."

"Then tell me of faith, Father."

He smiled. "These are thoughtful things, friend."

I persisted. "Tell me of faith."

His eyes searched mine; I searched his, for things he would never find within me. For such as I, there can be no faith, no hope. Perhaps we are truly those who are buried in despair, throned on glory. A contradiction? Has it been said that life is a contradiction? I looked in his eyes; there was only mist, nothing more to be seen. I looked further . . . saw darkness. A chill came over me.

"Faith, my friend? What is the word? Must man have faith in else but himself to live? These are troubled times. There must be much soul-searching." He looked away. For a moment, I saw the frightened man sitting in the Quartermaster's office, swallowing, burying his fear. What was this man? "And in the end," he went on, softly, all facades dropped, "in the end, who is to say that faith has any meaning?"

Then the priest was back, smiling at me, broken sunlight casting shattered rays through obscuring mist. I saw him now. I assumed the look of befuddled peasant, for such I was now, in this body.

"Deep thoughts. What know you of them? You search, and this is enough. Many do not search. Many . . . let the faith in search . . . die."

He touched my shoulder. "You seek learning at the feet of a fool. In itself, this desire is good. For you, the desire is good. For me, the desire is bad, for I cannot teach you. Each man for himself. Go and seek. You have my blessing."

I bowed, bowed again. He looked away from me, at the altar. I stepped backwards, turning, walking to the door, passing out

into the electric light of the hall beyond. There I leaned against the cool metal of the corridor wall, letting my thoughts seep through me, take me on a swirling path.

*The fear . . . the power . . . the strength within . . .*

*The man is a failure. He seeks to succor, but can do nothing.*

*And yet he seeks.*

*He seeks.*

In truth, what was the faith we spoke of? For myself, it could only be a nebulous quality; something seen in others. But for him, it was something towards which he groped. This entire race gropes towards faith, and yet, they never reach it as a race. In hard times, they strain the hardest. In soft, the least. And yet, what did the straining mean? I, of all, should know. But the answer wouldn't come. Too long have I walked with them, too long studied them, taking their words as my own, thinking in their terms. The mind . . . grows weary.

The thought again:

*the fear . . . the power.*

*The strength within.*

It came to me then, and I knew the faith for its reason and its result. Through a dark glass, I saw why it was, how it was, and why it was needed.

*They die . . . they live, and they die . . . and for this, they need. They need belief, and yet the fear . . . comes from the belief. The fear . . . that the belief may be false, and that there would be nothing.*

In the darkest times, in the blackest pits . . . when there should be nothing but despair . . .

*. . . there is faith.*

In times like these, "troubled times," when the pain comes from everywhere, from all . . . there is faith. I saw it, at last, and I understood all I'd seen, and the purpose behind it all. The fear and the

power were one.

(I step out of the host body. He walks away, dazed, wondering/wandering down the hall. I watch him, understand him and his kind at last. Then I move through the walls, into the chapel. Dran kneels before the altar, a strangely solemn figure caught in golden shadows, floating, catching blue mist. I listen.)

"Gods in heaven—do I do right? He came to me, and I had no answers to give him. Do I do right? This fire beneath my skull . . . it burns. It seethes. It takes my very soul. Can you answer me, Gods? Are there any to answer?"

His head fell weakly forward.

"Give me the strength . . ."

(I stare at him. Then I move forward, passing my "hand" through him, touching him. He straightens, inhaling softly. There is no more for me here.

(A note sounds through me: Recall. I heed. I turn, lifting upwards.

(There is a timeless time, a willowing moment of eternity, and then the world passes from me, and I am gone.)

### *LocOp Report: 3422: Mind-tap*

Sunlight was soft. She knew that. Sunlight was soft, and warm; it tingled over everything, touching and holding her, pulsing softly over her skin: soft. She knew sunlight by its feel. She knew sunlight by its taste. She knew sunlight by what others said. But she never saw its gold; it was all darkness.

The others talked of many things around her; sometimes she listened, and vague memories of times past were stirred in her. Sometimes she listened; mostly, she sat in the sunlight, which was warm, and let the cool waves of salt wash over her feet.

Then night would come. That was a bad time. Evil things happened in the night: the other women wouldn't speak of them, but

(CONTINUED ON PAGE 145)

# ***DIANETICS: The Evolution of a Science***

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## **BARRY MALZBERG**

*Twenty years ago, L. Ron Hubbard first sprang Dianetics upon the unsuspecting world in the form of an article in a science fiction magazine. Twenty years ago we were still undergoing the inflationary rigors of post-World War II peacetime, and Korea was only just about to happen. Twenty years ago, the worst the science fictional world had yet faced was the Shaver Mystery—a cynical attempt to build the circulation of this magazine by its editor of that period—and that was so blatantly aimed at the nut-cult lunatic fringe that while our sensibilities were outraged, we took it not at all seriously. Much has happened in the last twenty years, and this year Scientologists the world over are celebrating their twentieth anniversary. With this, and other things, in mind, Barry Malzberg decided to check up on the bastard offspring of science fiction and psychology, with a personal report he has titled in memory of Hubbard's first article. It may surprise you.*

**T**O BEGIN WITH, Hector and I are staring at one another. Hector is a seventeen year old high school senior who was referred to the Scientology Center by a friend; he wants to find out something about his mind. Whether or not he is finding out something about his mind at this moment is questionable: he is certainly finding out a good deal about me as he fixes me with a steady, unwavering gaze which manages to pass somewhere beyond the very rim of consciousness. My eyes shift, a faint trickle of sweat moves in the vicinity of my neck; I count off five minutes with the thudding of the heart. I am not, it would seem, going to become Clear easily.

Hector and I are doing the first exercise of

the Scientology Communications course. Actually we are not yet taking the course, we are only getting an anticipatory thrust, so to speak. Later the Registrar will talk to us individually and attempt to enroll us. The first exercise, the girl who has lectured us says, is both purgative and useful: the subjects—in Dianetics they are called "twins"—stare at one another for five minutes. This loosens up certain psychic blocks; enables one to work with his attention span extended, takes away tension. More complex exercises in the course proper are promised.

Hector takes this very seriously and so, for that matter, do I. It is uncomfortable. For the moment I am trying to steel myself to the exercise with a kind of highly contrived

rage, a contempt, if you will, of Scientology, of all of its purposes, of the devices which it has enacted for two decades, in the course of which it has, I tell myself, wrecked more psychology and more talent than its founder ever had in the first place. But the contempt does not work very well, the situation is too enclosed, and so I go back to the heartbeats. After an interminable time the girl says that we may stop. She asks us what our sensations were. How we felt. What we learned.

"It was very interesting," Hector says. "It was like it wasn't real. At the beginning I wasn't concentrating but then I was. It's a very strange thing."

"He really wasn't looking at you through the whole time, was he?" she says. "His eyes were shifting for quite a while and he was trying to divert his attention span. But then after a while he came into focus."

"That's right," Hector says. "That's right."

"What did you think?" she asks me. I am smoking now my fourth cigarette within a 20-minute period, five minutes of which were devoted to motionless staring. Apparently Scientology, the new science of the mind, has had more of an effect upon me than even I would admit. "I'm not a very verbal man," I say. "I agree with him. It felt that way. It was very interesting."

"Ah," she says and stands. She is really a very pretty girl, 20 or so, maybe 22, a fine, self-contained sense of herself holding her in check and one wonders vaguely whether in other circumstances she would be a good lay. Or whether the question of sex relates to her at all: from the little I understand about fanatics, they cannot be reached in that fashion and, of course, I have always considered the Scientology people to be fanatics. "Well, that completes the lecture-and-exercise. I'll want you to go out now and see the Registrar—individually—and

talk about the Communications course." She leads us briskly out of the small lecture room back into the hallway which is set up as a reception area with a desk and off of which is a large room in which a number of people are sitting, holding clay and staring at it. "They're in an advanced course," she says. "It's something else. You can talk to them later if you want."

Hector goes in to see the Registrar. I stand and look at the paperbacks and brochures racked up against the near wall: fifteen or twenty books by L. Ron Hubbard, urgings to go clear, urgings with testimony for the Communications course. I remind myself that I am reportorially detached and that none of this can move me in any fashion other than the ironic. I am not sure that I believe this.

**D**IANETICS REACHED the public domain in 1950, via a long article by L. Ron Hubbard published in the May, 1950, *ASTOUNDING* entitled "DIANETICS: The Evolution of a Science." Shortly thereafter a hardcover bestseller was published and Hubbard and several science-fiction writers went into fulltime Dianetic processing and administration. The story goes that in 1946, upon his discharge (for psychological disability) from the infantry, Hubbard told friends that he was sick of being a pulp science-fiction writer; it didn't pay and besides there was no future in it. What he wanted to do was to invent something which would make him so much money that he would be entirely free for the rest of his life. Since his friends—most of whom were similarly in science-fiction—knew Hubbard well and had had similar feelings all through the 1940's, not too much attention was paid to this. However, Hubbard persisted. In 1949, he brought to John Campbell (then and now

editor of the leading science-fiction magazine) the prospectus for his article which, he claimed, would revolutionize social and individual psychology while, in the bargain, serve to empty out the mental hospitals within a short period of time. Campbell, of whom more may be said later, was intrigued. Among other things, he was told that Dianetics could cure his chronic sinusitis. He brought into the picture his friend and contributor, the late Dr. J.A. Winter who, after reading Hubbard's prospectus, agreed to forsake general practition for Dianetics. He agreed to write a book of his own to legitimize the presentation. (Hubbard, like most pulp writers of that era, was relatively uneducated.) And in 1950, after the publication of the article, A.E. Van Vogt and Katherine McLean, two important *Astounding* contributors, gave up writing entirely to participate in Dianetics. (Both of them came back to the field 15 years later.)

Dianetics flourished through the early 50's, ran into a spate or two of legal trouble, ran into a great deal of legal trouble, was discredited in the United States, was taken by Hubbard over to England where the Church of Scientology was first founded and then manipulated by some very cunning British businessmen. Somewhere around 1963 Hubbard sold out his interest entirely for an enormous sum which permits him now to live on a yacht in the Caribbean from which occasional faint pronouncements and urgings are rumoured to come. The agreement permitted the Church of Scientology to use Hubbard's name and publications in any way they saw fit and the impression persists that he is administrating Scientology.

In 1966, I noticed young people passing out Scientology brochures on the West Side of Manhattan. Advertisements for Scientology began to appear in the

newspapers. A Church of Scientology opened somewhere around Herald Square. Other branches followed. The founder and guiding spirit of Scientology was identified as L. Ron Hubbard.

What was going on here? What was this business of cycles anyway? Was there indeed no sense of history? Could generations not address one another over a period of twenty years?

Who knew? These were not the questions— which drove me to the Scientology Center this evening. No; I wanted to intimate something else, no matter how dimly. I wanted to find out what there was in the very nature of Dianetics or Scientology which could destroy people.

THE TICKET had been handed me on 72nd Street by a tall, slender young man with pimples. My wife had gotten one at the same location six hours later which indicated that any real proselytory fervor was being backed by some kind of industry. The ticket gave me free admission to a film-and-lecture at the Scientology Center on West End Avenue.

The Scientology Center is located on the second floor of an old apartment building. As expected, the elevator operator gave me a look of loathing when I announced the apartment I wanted. But neither that nor the slamming of the elevator door behind me was of much account; fanatics and holy men alike have always had difficulty in the early stages. I went into the apartment.

The Registrar—I found out later he was the Registrar—handed me a paperback called *Problems Of Work* and directed me into a small dark room in which a movie was being shown to rows of empty seats. Hector turned to me when I came in, gave me a look which even in the darkness could only be interpreted as the kind of stare one might

get if he had arrived in the Nick of Time. At the projector the girl stood motionless. The film ground on.

The film is an aged, black-and-white interview of L. Ron Hubbard by a rather stiff Britisher who my New York mind instantly deduces as a serious homosexual but since the interviewer is seen only in vagrant flashes of questions this is not bothersome: what is interesting is the appearance of the Founder himself who to this moment I have never actually seen. He is a plump, balding white-haired man in his fifties, very cheerful, possessed by a minor nervous tension which makes him rise from the desk and pace occasionally but this too is perfectly all right: it gives us nice views of the room in which he is sitting, a room which, strangely, looks very much like this one except for the landscape which adorns the wall behind the desk. The sound quality of this film is terrible or perhaps it is only my desire to filter it out: Hubbard is talking with great energy and occasional flourishes about Clears, about safety, about psychology, about curative powers but very little seems to emerge that makes much sense. It must make sense, however, to the interviewer who becomes increasingly enthusiastic and personally involved throughout the course of the 25-minute film; finally the camera zeroes in on a close-up as he asks with a smile, "but tell me, Mr. Hubbard, what is there about Dianetics that makes it the best thing available?"

"Very simple," the Founder says and this one I catch. "It works."

SCIENCE FICTION in the 1940's was mainly technological. Only in the last decade or so have science-fiction writers begun to wonder about the effects the machines may have on man, what the implications of a technology are when it can

alter the nature of the human experience. In the 1940's, the question for a science-fiction writer was to evolve an extrapolation—call it a "gimmick"—which could solve a problem. The gimmick was usually machinery and the implied promise of the stories, optimistic or pessimistic, was that no problem was insoluble; by nature there was a machine to deal with it. What the machines had to do—ah, connection, connection!—was to work.

Of course there were exceptions. Some extraordinarily gifted writers (one pulp writer in, say, ten, is at least technically capable of writing very well) wrote stories in which the human condition was seen as possibly being insupportable if certain aspects of technology got out of hand. One such work was a short novel, *To The Stars*, which dealt with the possible effects of time-contraction upon interstellar travellers who, according to Einsteinian principle, would age when travelling at the speed of light, much, much more slowly than people held in time on the planets. Thus a young man could leave his young beloved and return only five months subjective time later to find her a haggard crone. It wasn't a bad short novel and they still talk about it now and then. The author was L. Ron Hubbard.

"NOW," the girl says. "Are there any questions about this film?" Hector and I blink at one another in the lights; exposed now for the first time it is as if we can hardly confront each other because any one in this room (except the girl of course) must be in severe trouble. New York is full of situations like this: mixers, hotel lobbies, mid-day Automats and so on but they lack the peculiar and total sense of *compression* which is in the Scientology Center.

"When was this film made?" I ask. I

understand from a work by Martin Gardner that it was made in the early or mid-fifties.

"1966. Why do you ask?"

"The sound quality seemed a little poor," I say and then mutter, *cut it out, kid; the name of the game is defensiveness and this is not the place to try it.* No, I am Barry N. Malzberg, welfare investigator for the Fort Greene Welfare Center, come in search of truth. In fact, I have been faintly piqued by the fact that when I gave my real name to the Registrar he had no reaction. It is difficult to realize that all but nine or ten writers in this culture are, for all intents and purposes, unknown.

"Well," she says. "Let's talk a little bit now about Scientology and Dianetics. Specifically Scientology."

"What's the difference?" I ask, not to heckle her. (When there are only two people to be lectured at, collaboration is forced.) "I thought they were the same."

"No. Dianetics is to make you well, to clear out the charges, to relieve you of engrams. Scientology enables the already well person to communicate, to live in society. We talk now about Scientology and the Communication Course. You can have Dianetic Auditing at the same time, of course. They're concurrent."

"But right now, we're not going to talk about Auditing?"

"No, just the introductory Scientology course."

"Ah," I say and wonder if I am really beginning to understand this. Is this how people become involved? By working from the social sciences into individual abnormalities later? Or was this the outcome of L. Ron's legal troubles in the fifties when he claimed that he could produce a Clear within a matter of days? It is something to think about although, unfortunately, I cannot discuss it.

CLEAR IS the highest state which one may attain through Dianetics/Scientology; it is the eventual aim of all participants in the sense that the Ph.D. is what interests everyone in graduate school. Of course, not everyone becomes a Ph.D., nor does everyone become a Clear but the obligation exists; in the sense that not every Catholic feels he must become a Priest, the distinction is obvious.

One becomes Clear by ridding himself of blocks, tensions and delimiting factors all of which in turn come from bad engrams. "Engrams" are units of experience which leave subconscious residue and the effect of a bad engram—an unpleasant experience that is—is to fixate the individual in a neurotic response to any circumstances which seem similar to those originating the engram itself. Through Dianetic Auditing or Processing, one moves with the help of a counselor through these forgotten engrams which have created "false charge," and at the moment of understanding the engram is "blown," the individual is unbound, and he has moved one step nearer to being a Clear.

Of course, this takes time. Becoming a Clear, that is. About two years, full-time. But, since a thorough Freudian analysis is expected to take two or three times as long, it may be worth it.

For that matter, the whole thing sounds very much like Freudian psychotherapy as it might be interpreted by a semi-educated science fiction writer trying to see it, as he sees most other things, as a kind of machinery. The question of "bad energy" has more to do with Reich, of course, but science fiction writers write much too fast for too little money to be able to be concerned—most of the time, anyway—with systematization.

ATTENTION, the girl writes on the

blackboard.

**INTENTION. COMMUNICATION.** "You must learn to communicate," she says. "The first thing for successful communication is intention. Then you must have attention. And finally—

"Well, finally you must have acknowledgement," she says. "How many times do we find ourselves confused, hostile, just because the person to whom we are talking fails to acknowledge what we are saying. If he had only said 'yes, I understand this' or, 'no, I don't quite understand that, would you repeat it?', all of these problems would be resolved and we would be free. **ACKNOWLEDGEMENT,** she writes on the blackboard with a flourish.

"Yes, I understand you," the President says. "But nevertheless we can't get immediately out of Vietnam."

"I see, I understand that," the cop says, bringing the club down on the head of the Bohemian. "I understand what you're saying."

"That's right," I say to H. Rap Brown. "Thank you for telling me this."

"Yes, I understand that," the girl would say to me, "and thank you but no, no, I won't possibly go to bed with you under any circumstances.)

**T**HE FIRST Clear, L. Ron Hubbard announced in 1950, was not he—as the originator of the technique he could no more be a Clear than a metastasis-specialist could cleave out his own cancer—but his young wife who had become Clear through six months of intensive auditing. In 1951, his wife sued him for divorce on the grounds that L. Ron Hubbard was incurably insane and had physically abused her.

"**T**HE Communication course will take 15 hours," the girl says, "and is an

introduction; it leads on to other more advanced courses or auditing of course but if you don't find yourself improved 100% in Communication by that basic course, your money will be refunded.

"Now as a means of bringing all of this closer to you, I'm going to give you the very first exercise in the course right now. Is that all right with you? I want you to sit facing one another, hands on lap, no legs crossed, no shifting of gaze, and stare at each other for five minutes. Okay? And don't do a thing until I say stop. If you want to laugh, cry, whatever, just let it happen but don't stop for anything and if anything happens outside, it just happens. Is that all right with you? Okay, ready, go!"

Hector and I do the exercise. Nothing happens outside, there are no cataclysms or shrieks. Nor is there any giggling or misdirection between us. He seems extraordinarily interested in looking into the very center of me and for all I know, I reciprocate this. It occurs to me that what we are doing is possibly irrational, possibly purgative but in all events it is moving. I have never stared and been stared at by my wife for more than 30 seconds and we have known each other for over six years.

Of course, there are reasons for this too. It is not in our nature—in anyone's nature—to go in for extended confrontation without the small and necessary dissimulations which underlie any relationship. There are reasons for this—there are reasons for almost any accepted code of human behavior—and at the sense of annihilation intimated by the exercise I find my contempt shift to a lower gear and then transmogrify into a kind of dread. I see little future for any kind of relationship between Hector and myself. I look for a moment at the wall. The girl's watch ticks.

"**T**HEY'RE BEAUTIFUL," I had said



to my wife on Central Park West two years ago when we passed two young girls handing out Scientology literature. "They're so beautiful. How can people so beautiful become involved with this rot? They're the prettiest, gentlest fanatics in the business and I don't understand it. Most of the people I know who knew L. Ron Hubbard didn't think him very beautiful at all."

**W**HILE Hector is in with the Registrar, I talk things over with the lecturer. She has been involved in Scientology for the past two years, is not yet Clear but is working toward it, presently has fallen a bit behind in some of her academic courses and is thus taking classes at NYU. "In psychology?" I ask. "Absolutely not," she says.

On the walls of the reception room I now note an impressive array of huge diplomas certifying that various people, apparently in the employ of the school, are Clear. "If I may ask," I say, "what is a Clear anyway?"

"A Clear? Well, let's look that one right up in the dictionary." She goes to the rack, takes down a thick book, leafs through it, apparently following a basic principle of auditing which is to get things right. "A Clear is a person without a reactive facility," she says and puts the book away.

"What does that mean?"

For the first time, she seems genuinely engaged. "It all goes back to Freud," she says. "He divided the mind, you know, into the conscious, the subconscious and the unconscious. Now, the unconscious mind is the mind you can't control, it just reacts to things without your being able to get hold of it. And holds you back. What you've got to do is to eliminate it so that you can be a causative factor, not a reactive individual."

"Then the Clear has no unconscious?"

"Nope," she says positively, "none at

all."

"That would knock dreams right out of the box then, wouldn't it?"

"What's that?"

"Well, according to Freud I think, dreaming is a function of the unconscious mind, right? If there's no unconscious, there would be no dreams."

"That's interesting," she says. "I never thought of that. I'll have to ask a Clear if he dreams."

"He couldn't," I say, feeling pedantic for the first time that evening. It is an old and pleasant sensation although school records will show that I am far short of a Master's Degree and, indeed, took a Bachelor's only over a certain resistance which might have been eliminated by a Clear state.

"Our Registrar, he's a Clear. Why don't you ask him if he dreams? That's very interesting."

For the rest of the time I have a cup of coffee—coffee I am told is a dime—and discuss in desultory fashion the welfare system with the girl. She feels that it is unwholesome and should be corrected by compelling people to work in basic labor jobs in order to collect relief. There are plenty of jobs which need doing, such as cleaning the streets or collecting garbage and day care centers should be provided for the care of young dependent children of unwed or abandoned mothers. At present the welfare system is merely an encouragement to desertion. I argue with her dispiritedly but the fact is that I reached similar conclusions on quitting the department of welfare over 5 years ago and there is very little wrong in what she is saying. I explain that desertions themselves are not necessary; the woman's simple allegation of a husband's desertion can in itself be sufficient since the department lacks the legal right or the means to investigate the true whereabouts of an

allegedly departed spouse who may, for all we know, be fully employed and simply absent from the household during the hours during which the Department makes its home visits.

"Terrible," she says.

I agree that there is a lot of fraud in the world.

**P**ROBLEMS OF WORK, the book which I have been given, was written in 1956 by L. Ron Hubbard, copyrighted by the Scientology Church of England, printed in Scotland and distributed in America only. The Church, like most institutions, covers its bets. The book is 92 pages long and is a Dianetic view of the world of employment which the author considers central to the healthy being of an individual; once an individual is removed from work or made to feel that he is dispensable, his morale shrivels and he may become physically ill or even die. The point then is to remain outgoing, involved and committed to one's job. Soldiers wounded in combat recover quickly if they are treated at the front but if their wounds force them into the rear lines for hospitalization they often die. This, the Founder says, is not a function of the severity of the wounds but of the military's attitude toward them.

L. Ron Hubbard was a pilot during the Second World War. I understand that he flew many dangerous missions and was awarded a distinguished service cross just before his disability discharge.

Under the copyright notice in the book appears the statement "the E meter is not to be used in the treatment or cure of any disease."

"E" stands for "engram".

**A**FTER A TIME, I go into the Registrar's

office. He is a stocky, balding white-haired man in his middle-fifties whose slight nervous tension manifests itself only in what could be called an overextended but placid joviality. "Barry!" he says, "do you want to be more able?"

"Yes," I say, "I want to be more able and feel better and function better and do more but I can't make any decision tonight; I've got to think about it."

He puts his palms up and smiles; I have seen the gesture before, most probably in an editor's office just before my manuscript was rejected. "Good evening!" he says. "And now, do you want to be more able?"

I concede that I do.

"Then I want you to take our Communications Course. We have people coming in from Massachusetts, New Jersey, driving in all day and night to take it. It's twenty dollars for fifteen hours and if you don't feel 100% better when it's finished, just ask for your money back. You see, then, it remains your decision all the way. If you want it back, you just ask."

I thank him, take his brochure, look over the office which is rather unremarkable although it fronts a magnificent view of a grey courtyard somewhere to the south. "I'll let you know," I say.

"Good," he says, "I won't hard-sell you. We don't have to do it, you see. You think about it. That book we gave you, *Problems Of Work*, is \$1.25."

It sounds reasonable at the price. If I write a pulp story for 2¢ a word I have to write only 63 words—say an extended line of dialogue—to pay for it. I reach for my wallet, put the money on his desk.

"I'll give you an invoice," he says. "Save your invoices; it's all tax-deductible. This is the Church of Scientology and any money you pay us is for training, is for donations, is for religious improvement. It can mean a lot at the end of the year. Of course you

shouldn't be frightened by the word 'Church'; we use that only in the basic sense . . . 'place of assembly'."

He hands me the invoice, I hand him the money, we wish each other well and shake hands. I leave the office. The advanced class in clay has now stopped for a break and the reception room is filled with eight or ten people, ranging in age from 20 to 40, in sex from faggotry to female-desperate and I nod at them as I go out. I am not a handsome man and am afflicted with little physical vanity but I tell my wife later that I have not had such female glances of longing since I worked in the State Mental Hospital at Poughkeepsie, New York. Of course this is all pointless; they are on the way to becoming Clear and I am aborting my training at this early hour. "Good evening," I say to them and leave. "Hope to see you soon," the girl at the desk says and thinking dimly about problems of context, I leave.

**I**N THE ELEVATOR I meet Hector. We look at one another without interest for a while and then come out onto West End Avenue. He asks me if I have any problems which brought me to this condition and I say no, not really; I just wanted to get an article out of it. In so saying I realize that I have for the first time that evening blown my cool but I believe I am entitled and, in any event, Hector is uncomprehending. He says that he had heard about the course from a girlfriend who had said that it was very useful but he, Hector, would rather learn something about how the mind works; he does not, in short, want to be really cured of anything because he is entirely healthy. I resist an impulse to shake hands on his good health and my upcoming article. At 83rd and Broadway I point the way to the subway for him, nod, and walk rapidly downtown. What I am trying to do, of

course, is to put the relationship with Hector into context, an almost impossible job, but I have the satisfaction of knowing that he has the same problem and is some thirteen years younger, meaning that he will not be able to reach the kind of tight conclusions so inevitable to the fully mature.

**A**T HOME I talk to my wife, read *Problems Of Work*, reread the August, 1950, issue of *ASTOUNDING SCIENCE FICTION* in whose letter column are presented the first responses to the long article of May, 1950. L. Ron Hubbard has 2,000 words thanking readers for their "blazing response . . . which has justified a lifetime of work" and notes that of some 1,000 cards and letters only three were unfavorable and those written by graduate psychology students obviously afraid of losing their jobs and the benefits of hard training. It is inevitable, Hubbard notes, that as the result of the introduction of Dianetic therapy, some one-fourth of the human race will shortly become dominant over the remaining three-fourths and thus control the destiny of the globe. Fortunately, the fact that this master race will show far more compassion than could be otherwise expected, will avoid the possibility of genocide of non-Clears.

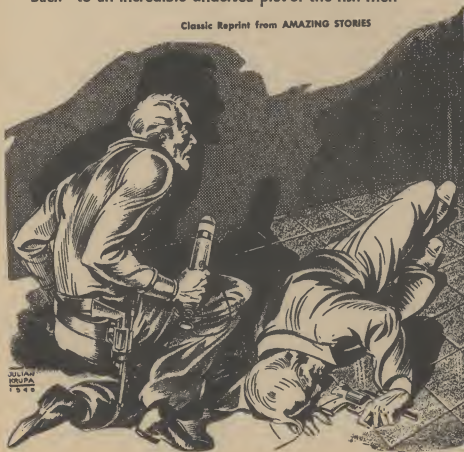
I reread "The Last Enemy" by H. Beam Piper and "A Pinch Of Culture" by Bernard Kahn and glance briefly at the editorial in which John Campbell announces the first of a series of articles on the human mind written from the viewpoint of Dianetics; as an aggregate they will show how human thought and response can be engineered as precisely as the Univac. I read the *Analytical Laboratory* which points out that Katherine McLean's story in the June issue won first place in the reader's poll. All in all,

(CONTINUED ON PAGE 127)

# FISH MEN OF VENUS

Manny Carter fled from the planet where he was a hunted man, but a shipwreck in space brought him back—to an incredible undersea plot of the fish men

Classic Reprint from **AMAZING STORIES**





## By DAVID WRIGHT O'BRIEN

**D**ON'T move!" Manny Carter's heart went cold at the sound of the voice behind him. There was a sudden sickness in the pit of his stomach. Slowly, he turned.

On the promenade deck of the space liner "Asteroid" there had been nothing but silence and darkness—silence penetrated only by the half-hum of the percussion room deep in the bowels of the ship, and darkness broken only by occasional meteoric splashes of flame coming from the void surrounding the liner.

Crouching there on the promenade deck Manny Carter had been aware of the silence, and grateful for the darkness surrounding him. He had been waiting for this moment, waiting in his tiny cabin until he was sure that the other passengers had all retired. He'd given them two extra hours of grace—there wasn't any sense in taking chances—and as he'd moved silently across the aluminum deck planking he'd breathed a silent prayer of supplication. If he could only reach the lifeship hanging from the rail davits—but now . . .

"Up with your hands, Carter!" Automatically Manny obeyed the command of the short gray-haired man who confronted him.

His eyes fixed in fascination on the vibrator-pistol pointed unwaveringly at

his middle, but he remained silent.

"I had a hunch," his captor was saying, "that you'd slip aboard the '*Asteroid*.' And I also had a hunch that you'd try to make a break for it in a space lifeship. It's all over, Carter. You're nabbed. I arrest you in—"

The sentence was left uncompleted, for Manny Carter, watching his chance with a timing born of desperation, crashed down on his captor's head with a fire extinguisher from the wall. With the slightest of sighs the older man crumpled to the deck, his vibrator-pistol ringing hollowly as it slid from his limp grasp to the aluminum planking.

For an instant, Manny stood motionless above the unconscious form of his victim. Then, swiftly he stooped to retrieve the vibrator-pistol, stuffed it inside his belt lining, and waited. A second later Carter had the pistol once more in his hand and was facing the companionway entrance on his right. Someone was coming up the companionway to the deck. If he was seen—. But it was too late to try to make it in the lifeship, and he had no time to conceal the body of the man at his feet. So Manny Carter ran his tongue along dry lips and pointed the muzzle of his weapon at the entrance.

His exclamation, as the intruder came through the entrance and onto the deck, was involuntary, horror-stricken.

"Eileen!"

The girl, recognizing him, was equally astonished, but there was pleasure in her eyes, in the tone of her voice as she spoke. "Manny! Well if this isn't something! I didn't know you were aboard. I thought—." Her voice stopped as though suddenly frozen, and she stood staring at the gray haired man at Carter's feet, at the vibrator-pistol in the young man's hand.

"Manny," there was sudden terror in her voice now, "Manny, what's

wrong, what's happened?" Then she gasped in anguished bewilderment as recognition leaped into her eyes—recognition of the gray-haired man sprawled inertly on the deck. "It's Dad!"

MANNY CARTER had been standing dazed from the moment of his first involuntary cry. And now, as he watched the bewilderment, the terrified suspicion growing in the gray eyes of the ethereal, auburn-haired girl before him, he found himself paralyzed for speech. He gulped futilely as Eileen Dodge, the girl he loved, dropped to her knees beside the man he'd just smashed to the deck. The little gray-haired man who tried to arrest him—Alson Dodge, her father! What a ghastly trick of fate.

His voice, when he finally spoke, was husky with the torrent of emotion he felt. "Eileen, he—he's not hurt badly. I—had to do it, please understand me. I was forced to—it was my only chance."

Alson Dodge moaned faintly, moving his head uneasily in his daughter's arms. Eyes flashing, Eileen turned to Carter. "I didn't know it was you. He hadn't told me." She bit her lip. "He probably wanted to spare me the knowledge that the murderer he was after was you!" Her eyes blazed accusingly but with infinite hurt at Carter. "*You—*" she repeated in stricken tones, "*the murderer my father was trailing!* No wonder you didn't meet us when the liner left Venus. No wonder Dad was unwilling to say anything when I asked him why you hadn't come to see us off." Her voice was shaking, almost sobbing. "Manny, Manny how could you have done this to us—to me!"

Dumbly, Carter tried to speak. The hate and grief that suddenly welled in the girl's eyes, however, was too much

for him. He tore his gaze from hers. How could he explain? What could he say that she would believe?

She had known her father's mission—to track down the murderer of Bramm. But Alson Dodge had spared his daughter the knowledge that he suspected her fiancé of the crime. Now—tragically—Eileen Dodge had stepped into a panorama that mere words could never explain away. A scene that would do more to convince her of Manny Carter's guilt than any indictment in the world!

Manny Carter started to speak. He was determined that, in spite of the incriminating evidence surrounding him, Eileen Dodge would learn the truth. He didn't expect her to believe him—but he had to try to make her understand. His brain was framing the words, "Eileen, please understand me, don't think what you're thinking without giving me a chance to explain. Don't—." He was framing the phrase, when hell—deafeningly and blindingly—broke forth in the bowels of the gigantic space liner.

The alarm bell rang almost simultaneously with the ear-splitting explosion that roared up from the engine room, through the corridors, and out onto the decks of the *Asteroid*. But Manny Carter didn't hear the bell. Knocked off balance by the rending explosion, he was thrown heavily into a lurching sprawl. He didn't hear anything after his head smashed against a bulkhead plate . . .

LATER, he had no idea how much later, Manny Carter regained consciousness. There were voices around him, excited voices. It wasn't until he tried to rise that Carter realized he was shackled. Then, through a haze of throbbing pain, he looked dazedly about at his surroundings.

He was lying on the floor of one of

the *Asteroid's* lifeships, and standing within his vision were Eileen Dodge, two strangers, Alson Dodge, the uniformed captain of the *Asteroid*, and a good-natured, pleasant looking fellow who was gazing intently at him.

"He's come around," said the pleasant passenger.

Alson Dodge crossed to his side and stood above him. There was anger in the gray-haired man's eyes. But before he could speak, Carter addressed him. "What is this? What's happened?" he managed to blurt.

"You're in custody, Carter," replied Alson Dodge, "and you won't be eluding me this time. We're aboard a lifeship of the *Asteroid*. There was an explosion in the percussion tubes of the engine room. It set the liner ablaze. We managed to get clear in the lifeships. You can thank Eileen that your hide was saved—for the present. She dragged you into the lifeship while the crew and passengers were abandoning the vessel."

"But where—?" Carter started.

"We're some two thousand miles above Venus, and we're going down. Once this business is over I'm turning you in to the authorities. You're charged with the murder of Prince Bramm." He shook his head soberly. "And I don't envy you when you face trial for killing a Venusian Prince!"

"But I didn't, I swear—"

"Do you expect anyone to believe that?" Alson Dodge cut him short coldly.

The two passengers, a man and his wife, stared at Manny with ill-concealed curiosity. He met their glances, his eyes boring through them until they were forced to turn away. The Captain of the ill-fated *Asteroid*, Carter remembered his name as Sommers, scarcely gave him a second glance, giving all his concentration to the controls of the

craft. Then Manny forced himself to look in Eileen's direction, only to find that she had turned her back on him and was apparently intently interested in something outside the thick porthole of the lifeship.

"Well," Carter declared bitterly, "this seems to be some little party." He spoke directly to the calm, good-natured fellow who, of all the passengers in the craft, was the only one still watching him.

"I'm sorry," the sympathetic man said quietly, "that it had to turn out like this, Manny." Even as he spoke, his left eyelid closed in a significant wink, observed only by Carter.

Suddenly Carter felt renewed courage. Chambers, Dan Chambers, the chap with the calmness, was still willing to help him. Carter knew that Chambers would aid him again as he did the first time. In spite of his despondency, Manny Carter managed an answering wink to Dan Chambers.

For Dan Chambers, his ex-boss, was one person who believed in him. It had been Chambers who aided Manny in getting secretly aboard the *Asteroid*. It had been Chambers who helped him make his escape from the Venusian authorities. Chambers was for him, and the thought was more than consoling to Manny Carter.

FOR the next several hours the passengers aboard the tiny lifeship paid no more attention to Manny Carter. And lying there in the corner of the craft, the shackled young prisoner had time for a great deal of thinking. He devoted it to a review of his plight and the steps that led him to his present situation.

Everything had been splendid with Carter, until the last two days. Sub-Administrator of Trade for the Earth Council, Manny Carter had worked

hard and faithfully at his post on Twenty,\* the solitary land dot on the face of the watery planet Venus.

The Venusians, creatures half-human and half-fish, carried on an extensive pearl trade with Earth. The island Twenty had been the base for these dealings, for it provided a livable spot for the earthmen during the pearling transactions with the Fish Men of Venus.

Since the Fish Men were unable to live on Twenty—it being above water and out of their natural environment—they had delegated one of their number, Prince Bramm, to act as their representative to the earthmen on Twenty. This was made possible by the construction of a water palace on the island. Here Prince Bramm had been able to live in comfort while supervising the pearl trading between his people and the earthmen.

As Sub-Administrator of Trade, Manny Carter had many dealings with Bramm, Prince of the Fish Men. Dan Chambers, Chief-Administrator, allowed Manny to negotiate most of the smaller pearling deals. And working under Chambers, Manny had been making a name for himself. There had even been rumors that Earth Council contemplated giving him a Chief-Administrator's post on Saturn or one of the other planetary bases. Eileen Dodge and Manny planned to marry as soon as he got that promotion. The Investigator for Earth Council had hinted that the couple did not have long to wait.

Then Bramm, Prince of the Fish Men, was brutally murdered. The kindly old Venusian had been found, two mornings before, lying several hun-

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\* Twenty is the designation number of the Earth outpost station on Venus and is one of 31 such posts scattered throughout the solar system, for purposes of trade. Twenty is the only land area of the watery world.—Ed.



dred yards away from his water palace on Twenty—dead. The evidence showed that he had been forcibly dragged from the palace and left to drown in the air.

Evidence also showed that the leader of the Fish Men tried to crawl back to his water castle, but had suffocated before he could reach it.

Circumstances pointed to Manny Carter as the murderer. The buckle from his office-belt, bearing the initials "M.C." was found clutched in Prince Bramm's hand flaps. And Manny Carter had been the last man to see the Venusian alive.

At first Carter decided to give himself up, but Dan Chambers, who believed his somewhat younger assistant's story, convinced him that such a move would be disastrous, that Venusians would demand punishment and that Manny would be railroaded into the role of scapegoat. "The rocky road of the innocent," Chambers had said, his great, good-natured face frowning.

Chambers made the arrangements for Manny's escape aboard the liner *Asteroid* which was headed back for Earth. They had decided that Manny could leave the liner in mid-space by means of a lifeship, and find his way to safety on Earth, until Chambers, working on the case, could clear him.

But Alson Dodge, assigned to the case, had his duty to fulfill. Like it or not he had to seek out Manny Carter and place him under arrest. And Alson Dodge hadn't had the courage to tell his daughter the truth.

But now Eileen knew, and Manny was captive, headed back for Venus to stand trial for the murder of Bramm, Prince of the Fish Men. Fate, in the form of the explosion in the percussion chambers of the space liner *Asteroid*, had made that return somewhat unconventional. Seven castaways from a

space liner—headed for Venus in a lifeship.

"It's a mess," Manny said bitterly to himself, "a real mess. But somehow, some way, I'm going to get out of here."

The drone of the small atomic motor at the rear of the lifeship seemed to lull Carter's anguished thoughts into a hazy panorama. He was aware of the aching throb in his head, the slowly blurring figures of the others in the lifeship. Manny Carter hadn't closed his eyes in the last forty-eight hours. But now sheer fatigue took control of his weary mind and he dozed into a troubled sleep. . . .

IT must have been the break in the muted purring of the lifeship's motor that brought Manny Carter back to consciousness. There was the sound of excited conversation coming from up forward, and as Manny turned his body this way and that in an effort to squirm to a position of vision, he noticed that the voice of Dan Chambers seemed to be the loudest, the most insistent.

"... the most feasible move," Chambers was saying. "It's more than certain we can't force the motors much further. And the delay won't be much."

"I have more than just that to think of," Alson Dodge said gruffly. "I have a prisoner to deliver, Chambers. It's urgent that I get him to Venus as possible."

"Chambers is right, however," Captain Sommers was talking now. "It's almost positive that our atomic motors won't hold up much longer. If we can land, undoubtedly we'll be able to get assistance from whatever tribe of Fish Men are in that vicinity."

"They're right, Dad," Eileen Dodge broke in. "The delay won't be long, but it is necessary."

There was a murmuring of assent from the other two passengers, the mid-

dle-aged man and his wife, then Manny heard Alson Dodge clear his throat. "Good enough, Captain Sommers. If it's necessary, there isn't anything to be done about it. But please don't take any more time than is needed."

Captain Sommers' voice was terse, slightly bitter as he replied. "I don't care to take any more time than you do, Inspector Dodge. Please remember that it is as essential for me to get back to Venus as it is for yourself. Remember, man, I've lost my ship with that explosion. It's not pleasure that's waiting for me, by any means."

"Sorry, old man," Dodge said. "I'm afraid I came near forgetting that."

"How soon will we be ready, Captain?" inquired Chambers.

"We should start our dive in the next half hour," Sommers declared. "Everyone had better get ready."

Carter heard footsteps, then, and Alson Dodge approached him. He was holding a space suit in his arms, and he bent momentarily to deposit it on the floor beside Manny. Then he spoke.

"I'll have to ask you to make me a solemn promise, Carter."

Manny looked at him questioningly. "What?"

"We're going to be on Venus shortly. And since the motors won't last long enough to take us directly to Twenty, we'll have to travel underwater until we find a Venusian village where we can make repairs. It means that I'll have to remove your bonds, Carter. You'll have to put on one of these space suits when we submerge."

Manny merely nodded.

"I'll have to ask your promise not to attempt escape during that time," Dodge concluded.

"You have it," Carter answered briefly.

Wordlessly, Alson Dodge produced the keys to unlock Manny's shackles.

A moment later his young prisoner stood erect, stretching his hard, cable-like muscles gratefully.

"Thanks," Carter said.

Looking around, Carter saw that most of the other passengers, with the exception of Alson Dodge, Chambers, and himself, had already climbed into their space garb and were busy adjusting the oxygen and pressure gadgets. He tried to catch Eileen's eye, but was unsuccessful. Then he sighed and began to dress himself in the spatial equipment. Once, during the dressing process, Manny noticed Chambers looking in his direction and was grateful to see his former superior give him a knowing wink which seemed to say, "Don't worry, fellow, we'll get you out of this."

Fifteen minutes later Captain Sommers cut the motors on the lifeship and turned to the passengers. "We're coming down on the water," he announced.

Eileen, her father, and the middle-aged couple grouped themselves around the thick-plated porthole to get a glimpse of the territory on which the lifeship was descending. Captain Sommers stood quietly at the controls, occasionally checking the descent instruments. Dan Chambers took this opportunity to ease closer to Carter.

"Take it easy, Manny. I still believe in you, kid. The game isn't over by a long shot," he said softly. "I know the territory we're going down into. Once we're there, I'll see to it that you get the chance to make another break for it."

"Thanks, Dan," Carter replied. "I owe a lot to you, even if things did get messed up a bit. When I'm able to clear myself, I'll pay you back somehow."

Carter nodded swiftly, gratefully. Then an uneasy thought occurred to him. Escape? He'd given his word to Alson Dodge that he wouldn't try to escape again. Not, at any rate, until

the lifeship was once more on its way to Twenty.

"Nonsense," Carter told himself sharply. "What in the Hell has my word got to do with this? Did they believe me when I protested my innocence? My say so isn't going to result in a trial for a murder I didn't commit!"

Chambers had joined the group at the porthole, and Carter, preferring to stay where he was, sat down on one of the benches lining the wall of the craft, turning his attention to Captain Sommers' skillful handling of the landing.

With the most imperceptible of jars, the tiny lifeship settled on the water. Killing the atomic motors entirely, Captain Sommers turned to the passengers.

"Very well," he said. "We're safely on Venus. We dive below water in five minutes. I'd advise you all to put on your space helmets before we go down."

Silently, the group obeyed Sommers' command. Then, after what seemed to be an eternity of preliminary gauging, the white-haired ex-captain of the *Asteroid* faced the passengers of the lifeship once again.

"Ready," he said briefly.

The nose of the tiny craft seemed suddenly to go leaden, as if pushed front-end-over by a gigantic hand. There was the faint sound of the pressure gauges whistling, the lights in the small cabin flickered for but an instant, then, except for an imperceptible sloping of the floor, everything seemed to return to normality.

"How long will it be until we find a Venusian village?" Alson Dodge asked the Captain.

"Not long, not long at all," Sommers reassured him. "If the directions Mr. Chambers has given me are correct, we are almost within vibration wave of one of them now."

Carter saw Alson Dodge turn to

Chambers. "You know the Venusian territory well, Chambers?" There seemed to be the slightest hint of a challenge in his voice.

Carter cursed himself for not having adjusted the ear-phones inside his helmet to a general auditory vibration for, although he had been able to hear Sommers speaking to Dodge, and Dodge's reply, he failed to pick up Chambers' answer to the old man's question. Quickly, Carter flicked the adjuster button on his suit to a general frequency pick-up. He came in on the tail end of the handsome good-natured Administrator's reply. "... after all, it's my job, y'know," Chambers finished.

**D**URING the minutes that followed, Manny Carter centered his attention on Eileen Dodge. Wistfully, he forced himself to follow her with his eyes as she moved back and forth in front of the instrument panels at the nose of the lifeship. Once he thought for an instant that she stole a glance in his direction. But if she had, she forced herself to turn coldly away, as if she had permitted herself to look at something quite distasteful very much by accident.

"God," Carter thought to himself, "she looks lovely even in that clumsy, cumbersome space suit."

Through the glass turret-like helmet, the lights seemed to slant sunnily down on her beautifully red hair, giving it an almost halo-like sheen. This last mental comparison was too much for Manny Carter, and for the first time in the last forty-eight hours he choked back a lump that rose swiftly to his throat. During the past hours he had been trying not to think of Eileen Dodge and all the things her loss meant to him. It was more than he could stand. The girl he loved—the girl who had once loved him—certain that he was a mur-

derer!

At that moment Manny Carter was never firmer in the conviction that he couldn't die, couldn't let himself be railroaded into a final punishment for a crime he hadn't committed. His lean, tanned young jaw set firmly and his square, hard fists knotted and unknotted themselves at the thought of the rank injustice of his plight. But Manny Carter wasn't feeling any schoolboyish emotion of self-pity. Instead he felt rage, hot burning rage and determination to right the wrongs he had suffered.

"I'll show them," he muttered half-aloud. "I'll show them all, damn it." Then he flushed, for simultaneously all heads of the other passengers in the cabin turned in his direction. Manny realized that they had all picked up his muttered challenge through their helmet ear-phones.

IT couldn't have been more than several hours later when Captain Sommers turned to the group in the lifeship with the announcement: "There's a village directly ahead of us. Fish Men are already coming toward the lifeship. We'll find a mooring spot in the next five minutes."

Dan Chambers smiled. "I told you that we'd find a village if you followed my directions," he said easily. "This is probably Maeku, a village I've contacted on pearling business on several occasions."

Suddenly Carter became alert. He couldn't remember, from any previous knowledge, of ever having seen any transactions closed in the Administrative offices on Twenty that involved Maeku. As a matter of fact, he seemed to recall that Maeku was charted as one of the Venusian sections that were completely unproductive insofar as pearling was concerned. He felt himself grow

tense within. Chambers' plan for his escape was beginning to materialize.

But Carter didn't have time for further surmises. Alson Dodge crossed to where he stood, and placing one hand on his arm the gray-haired interplanetary investigator spoke with an air of firm decision.

"I'll have to ask you to keep constantly in my sight, Carter," Dodge declared quietly. "You understand, of course. You've already made one break for it and I can't risk another." Then he addressed Dan Chambers who stood expectantly in front of the steel air-lock door at the nose of the ship. "I wish you'd take care of my daughter, Chambers. I don't want to take any chances on something going haywire with these Fish Men. After what's happened to their Prince on Twenty, they might be stirred up a bit."

"Be glad to," smiled Chambers, "if Eileen doesn't mind. But I don't think we've much to worry about insofar as the Venusians are concerned. They're a peaceable people. I don't think they mean to harm us."

Then Captain Sommers flooded the tiny cabin with sufficient air pressure to keep out the sea that enveloped the little lifeship. The door was thrown open in the next moment, and the little band of castaways from the liner *Asteroid* stepped forth into the dimly-lighted streets of the strange Venusian under-sea village.

A WELCOMING committee of Fish Men had grouped about the tiny lifeship. As Carter looked swiftly through their ranks he felt a sharp, unexplainable sense of distrust. There was something written in their wide disc-like eyes and flat faces that made him uneasy. Then Dan Chambers took charge of the situation as the others looked on with an air of expectancy.

"Where," he demanded in the Venusian dialect, "is your leader?"\*

THERE was a commotion in the ranks of the Fish Men, and they parted to permit a huge, malevolent looking Venusian to move to where Chambers was standing. He was the same as the thousands of Fish Men Carter had grown used to in his services as Sub-Administrator on Twenty, and yet he wasn't. There was something different about him, and Manny Carter searched his mind to discover what that something was. Except for his unusual size—most Venusians were of short stature—the leader of this particular village didn't seem different. But still there was something. . . . Carter gave it up as Dan Chambers addressed the creature.

"We have come from Twenty," Chambers was saying, "our great ship was destroyed. And now we must return to Twenty. We wish to make repairs in your village."

The huge Fish Man spoke in Venusian, gill-like mouth opened and sending tiny air bubbles up through the water with each syllable. "We are glad to offer ourselves to your service. State your wishes and I shall see that they are carried out even as commands."

Captain Sommers had been listening intently to the interchange of conversation, and now he broke in on Chambers and the Fish Man. "It will be necessary for us to have our lifeship raised sev-

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\* It is a well known fact that sound waves carry much better in water than they do in air. Anyone who has pounded two stones together on the bottom of a swimming pool will readily agree that this is a fact. Sound waves, indeed, carry much further in atmosphere, when that atmosphere is saturated with moisture, such as fog, or mist. Thus, when Chambers addressed the Venusian, he was certain that the Fish Man would hear him. The sound waves carried through his helmet, into the water, and quite as effectively as in atmosphere.—Ed.

eral yards off the ocean bed. If this can be done by your men, I will appreciate it."

The Fish Man merely nodded. Then, turning to Chambers he spoke. "My name is Atar, I lead the villagers of Maeku. Would the other visitors care to rest inside our shell huts while the repairs are being made on the vessel?"

Chambers turned to Alson Dodge, who had been silently standing beside him. "How about it? I think it might be a good idea."

"Very well," Dodge replied. Then he gestured to Eileen. "Go on ahead with Chambers, dear. I'll follow in a moment."

As Chambers, taking Eileen by the arm, followed the beckoning hand flaps of the huge Fish Man, Atar, Carter heard him laugh. "Don't look so frightened. These people are harmless, once you get used to seeing so many of them hanging around."

The middle-aged married passengers—Carter had learned their names to be Mr. and Mrs. Foswin—followed swiftly behind Chambers and Eileen, as if they were frightened by the idea of being left alone in the strange undersea village.

Then Alson Dodge stood in front of his prisoner. "Come on, Carter," he said. "I want you to stay very much in my sight while the repairs are being made."

The shell huts which Atar, the village leader had mentioned, were actually extremely well constructed dwellings. With the exception of the furniture and accessories, meant for undersea life, they rivaled some of the finest earth dwellings Manny Carter had ever seen.

The hut, a huge building of solid shell construction, into which the passengers of the lifeship were led was spacious and comfortable—if any undersea buildings could have been comfortable to land beings.

While Captain Sommers and Alson Dodge talked quietly with Atar the Fish Man, Carter silently pondered over the strange premonitions he felt concerning the village. He looked up, now and then, to see Dan Chambers talking casually, charmingly, to Eileen.

Atar disappeared, finally, with Captain Sommers, evidently to give directions to his villagers in connection with the repair of the ship. The middle-aged Foswins went along with them, undoubtedly curious about their odd surroundings. Minutes lapsed into an hour, then two. Alson Dodge, growing uneasy, began a restless pacing. Dan Chambers, however, appeared unperturbed by the delay of Captain Sommers and the Foswins.

Manny Carter was looking pensively at the bright carboncade bulbs\* that provided an almost daylight illumination for their underwater surroundings. Then, as if on a swiftly given signal, their glare faded into nothingness, leaving everything in pitchy, inky blackness!

IT was all so sudden, one instant there had been light, and the next moment nothing but impenetrable darkness. Alson Dodge had been the first to cry out. Then Carter heard a startled scream of terror from Eileen. Dan Chambers' voice, speaking swiftly, reassuringly, came to Carter through his headphones.

"It's all right. Everything is all right. Don't get excited. Must have been a voltage transference in repairing the lifeship. Follow the illumination of my torch. I'll lead you out of here."

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\*These Venusian carboncade lamps probably consist of a type of carbide-gas burner, evacuated of water, with a tiny vent for escape of fumes, and for admitting a constant supply of water to the carbide to form the gases. These burn with a brilliant illumination, until the escape vents are shut off, when collecting fumes quickly extinguish the flames through lack of oxygen.—Ed.

There was a flickering, then an under-sea torch blazed in the corner where Dan Chambers stood last. It wasn't strong enough to provide any more light than was necessary to carry its own radiance. But Chambers was evidently waving it back and forth in a beckoning signal. Then it moved ghostily in the direction of the nearest door.

Carter was starting out after the torch when a hand seized his arm. Startled, he wrenched himself free, stepping back a pace. Then, before he could prevent it, a hand reached forth to spin the communication dial on his chest plate to "short reception." In the next moment he heard Chambers' voice, calm and collected.

"Take it easy, Manny, this is your chance for a break. It's all been staged for your benefit, kid. The torch that Dodge and his daughter are following is held by one of the Fish Men. Sommers and the Foswins are being held. The lifeship's been juiced up to give you a chance for escape. I'll be able to explain it all to them, once you're free."

Something made Manny Carter hesitate for the briefest of seconds. Could it have been his promise to Alson Dodge? Or was it— Then it was past, and Carter remembered the penalty that awaited him if he was taken back to Twenty, remembered the law of self-preservation over all else.

"Let's get going," he said sharply. "Lead the way, Dan."

They had covered several hundred feet through the tangled mass of seaweed that engulfed them knee-deep at the rear exit of the shell hut. Through the murky half-light surrounding them, Carter was now able to make out the outlines of the lifeship, evidently held in readiness for his escape. Suddenly he stopped, turning about to face Chambers.

"What about the girl?" he asked.

"Will any harm come to her, or to the rest of the passengers?"

"Lord, no," Chambers answered. "Manny, be quiet and keep going or you'll never make it!"

Then they were pushing swiftly through the tangled undergrowth toward the lifeship once more. Then they were at the door to the craft. Several Fish Men stood in readiness, waiting to help Carter and Chambers slide the lifeship along the ocean floor to a position where it would be free for an immediate take-off.

Carter was at the door, now, and he turned to Chambers, placing his gauntleted hand on the other man's shoulder. "Thanks, Dan." Then he was inside, heard the door slam shut behind him. He took his place at the controls of the craft, and felt it moving out from the tangle of seaweed under the guidance of Chambers and the Fish Men. Carter saw that he was clear, with a straight stretch of ocean floor ahead of him. Through the thick paned window at his right he could see Chambers' grotesquely space-suited figure moving out of range followed by the naturally weird forms of the Fish Men. He reached for the throttle switch, his hand just a trifle hesitant.

A moment later the atomic motors sparked into crackling vibration and the lifeship was speeding down the open stretch of sea bed to safety.

"To safety," Manny muttered to himself perhaps a half hour later. "And what in the hell is it going to get me?" He had decided to remain undersea for the first part of his flight, pointing the nose of the lifeship in counter-direction to Twenty.

Now, all at once Manny Carter's hard young jaw went slack. A swift, sickening doubt, the culmination of all his previous vague suspicions, crashed in on his mind. The Fish Men at the

village of Maeku—too late he realized what he remembered about them!

"No," Carter told himself savagely. "It can't be. I'm acting like a fool. It's just my crazy imagination, my rotten memory. It can't be!" But in spite of his words, in spite of the almost overpowering instinct for self-preservation, Carter threw the controls of the lifeship savagely about, heading back in the direction of Eileen Dodge, Dan Chambers, and the odd Fish Men of Maeku!

THE distance Manny Carter covered in flight seemed doubled, now that he was returning once more to Maeku. Doubled, no doubt, because of the fact that, in flight, Carter had worried only for himself. But now his frown of anxiety was caused by an unpleasant mental picture of Eileen Dodge, her father, Sommers, and the two unsuspecting Foswins. Carter knew what they must be facing.

"I've been a chump," Carter groaned aloud, "pray God I haven't been a chump too long!"

It was simple, so awfully simple that Carter cursed himself for not having suspected it at the start. The Venusian village of Maeku had been the first positive indication. Chambers spoke of having had pearl dealings with the villagers. There were no pearls within a thousand sea miles of Maeku. It was included in the blocked, unproductive squares that Carter had charted on his earth reports from Twenty.

Nor was that the only ominous part. Atar, leader of the Maeku villagers, had aroused Carter's suspicion. And now he knew why, for the huge Fish Man, identical to other Venusians in almost all respects, bore the outcast brand of Venus. On his back, where there should have been the black, sleek fin that was part of the anatomical structure of the ordinary Venusian,

there was instead—the jagged, gray, menacing fin of the killer shark!

There was no doubt in Carter's mind whatsoever. Atar and his Maeku Fish Men were the Venusian renegades who had never been seen by Earthmen, but whose existence had often been testified to by brutal undersea pearl pirating. Manny remembered the venerable Prince Bramm speaking of the outcast tribes of Venus, of their desire to drive earth people from the face of the watery planet and seize control of the pearling trades. And Chambers, Dan Chambers, had been dealing with them!

"It was smooth," Manny muttered, smashing his knee sideways against the accelerator bar, "too damned smooth! Chambers had Bramm murdered and convinced me to take flight, so it would look absolutely certain that I was guilty. He didn't want me to give myself up, not until he had had his chance to organize the renegades and gain control of Venus. Then he would have been in a perfect spot. Dictator of Venus. If Earth wanted any more pearls,\* they'd deal with Chambers and his pirates, or not at all!"

But what of the explosion aboard the *Asteroid*? Manny's brow wrinkled in perplexity. Was it sheer accident? It was too well done, too expertly timed

to have been a thing of chance. The *Asteroid* was the only space liner traveling between Venus and Earth. Its destruction meant that actual communication—other than radio, that is—between Earth and Venus would have been cut off for at least three weeks. And in three weeks Chambers would have time to sweep the planet clean of anyone standing in the way of his monstrous scheme!

Of course! It could only be Chambers! He was the only man who could have engineered any crooked work on Twenty. He was present when Bramm was killed—at least he was on the island. He was on the ship when the mysterious explosion—not so mysterious now!—had wrecked the liner. He was on the scene to direct the lifeboat to the right spot to be picked up by his own cohorts. And now, he was allowing Carter to escape, so that if anything did go wrong, Carter would be the goat. Clever, that man!

DAN CHAMBERS, pleasant, good-natured, calm Dan Chambers, the one man on Venus Carter thought to be trustworthy, loyal. Why, Chambers would have taken his—Manny Carter's face went deathly white at the last unspoken thought. Why not? Why wouldn't Chambers have figured on that as well? Eileen was attractive. Chambers had expressed his admiration of Carter's fiancée countless times—under the guise of friendly admiration. Suddenly Chambers' actions toward Eileen Dodge became obvious, horribly obvious, to Manny Carter!

Face taut, hands clenching the controls of the lifeship in a vise-like grip of desperation, Manny Carter breathed a silent supplication that he had not been too late in his discovery, that he hadn't played the fool too long and thus thrown away his one chance.

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\*Although on Earth synthetic pearls of great beauty are easily created, and natural pearls are abundant, Venusian pearls are vastly different. Properly, they are not pearls at all, although they are a formation built up by a small deep-sea fish. Rather than being opaque, as are Earth pearls, whose lustre is a surface quality, which breaks up the light into the delicate colors of mother-of-pearl, they are fully transparent, and rather lack-lustre until warmed to body or near body temperature. Then they burst into vari-colored flame that seems to flow through them like liquid fire, to ehh and flow even outside the surface of the pearl to a distance of sometimes as much as a half-inch, as though the colors were escaping from the pearl itself. They possess a fascinating loveliness that is equalled by no other gem on either Earth or Venus. Even Martian rubies cannot match them for display purposes.—Ed.



EVERY second seemed several eternities, as the tiny craft split its way through the murky green depths. And Carter, peering with anguished impatience at the indicator gauges on the control board in front of him, tried to move the little lifeship forward and faster, forward and faster, by sheer will-power.

Time became a dull, gray, agonizing blot in Carter's mind. It seemed to him as if he had been sitting there at the controls for endless centuries. The throttles on the motor ranges had been opened wide, and the atomic engines were crackling with a furious, hysterical, hell-driven whine. Tiny beads of sweat formed on Carter's bronzed forehead, trickling down the bridge of his nose, clouding his eyes with their salty sting. He brushed them away when he thought of it, but most of the time he gazed fearfully at the pressure gauges, praying huskily that the motors would not give out, would continue to crackle onward under the driving fear that his throttle hand imparted to them.

So intent was Carter, so agonized, unseeing was his concentration, that at first he didn't notice the blot of light in the distance. But then, when the glowing aura registered itself in his brain, growing larger and larger as the lifeship approached, he reached swiftly to the throttle cut-off, and almost immediately the atomic motors gratefully subsided into a faint humming sputter. Maeku was just ahead!

As he eased the ship slowly forward, Manny Carter's mind went through a series of desperate calculations, seizing schemes and then discarding them, re-evaluating odds and then ignoring them, for until this moment he hadn't given thought to a plan of action.

One thing seemed fairly certain. He couldn't barge right into the village, announcing his presence to everyone and

anyone. It was also true that, should he leave the lifeship and proceed to Maeku on foot, he would need some sort of a weapon with which to defend himself. Carter eased the lifeship to a complete stop.

Climbing stiffly from the control seat, he walked to the rear of the tiny craft and began a thorough search for something which would serve as a weapon. "Or," Carter thought bitterly to himself, "a reasonable facsimile."

Moments were wasted as Carter tore through every possible cache for a weapon. Storage lockers revealed nothing, niches beneath the emergency caches were also empty. He was perspiring freely from the frantic search.

"To hell with it," he thought desperately, "there's no more time to waste." He was starting toward the air-lock door and was throwing open its release, when the object caught his eye. It had been placed in an unnoticed holder above the door itself—an automatic type atomic arc torch, the kind used to cut through metal in emergencies that might occur aboard the craft. It was capable of working under water, or in any sort of pressure conditioning. Meant for a tool, it was not, however, too clumsy to be used as a weapon. As a matter of fact, the handle of the atomic torch was fashioned in much the same manner as the butt-end of a vibrator-pistol.

"It's something," Carter muttered grimly, "and it's going to have to work." Swiftly he tore the torch from its holder, pressed down on the air-lock door release, and stepped out into the undersea jungle.

He switched off the receptor button on the front of his space suit. There would be no need for communication. Besides, Chambers was probably still garbed in spacegear, and Carter didn't want to take the chance of having him

—with his receptor adjusted to a general pick-up—hear his heavy breathing as he made his way through the undergrowth that formed a sort of jungle around the village.

IT was slow, treacherous going. And several times Carter was almost caught in the vampire-like grasp of carnivorous undersea plants that reached out toward him as he passed. He knew that, once they seized prey, the flesh-feeding fungi never released their death grasp, so his narrow escape on both occasions made his heart hammer with the excitement of the danger that surrounded him and the greater danger that lay ahead.

It was fully fifteen minutes before Carter emerged from the under water jungle and onto the edge of the clearing that encircled the Fish Man village of Maeku. For several minutes, he hesitated on the fringe of the clearing, trying to adjust his eyes to the new brilliance of the lamps of Maeku. And those minutes almost cost him his life.

He didn't hear the slithery, silent approach of his adversary, so it must have been sheer instinct that made him wheel about. And just in time—for less than four feet behind him was a shark-finned Fish Man of Maeku. In the evil looking creature's hand-flap was clutched a two-foot long pearling dagger!

There was a sudden green swirl of bubbles as the Fish Man drove in toward Carter, knife raised high for the plunge. Carter forced himself to wait precious split-seconds, till he was positive the creature was in range of the atomic torch. He had to take the chance, for his weapon was as yet untried.

Then, as the wide, emotionless, disc-like eyes seemed almost against his very own, Manny Carter, breathing a prayer to the Gods of Combat, squeezed hard on the trigger of his atomic torch.

The Fish Man never drove his gleaming blade downward, for with a horrible, half-human gurgle, he dropped the knife, clutching in searing agony at his middle. In the instant before the creature fell, Manny Carter saw screaming anguish written in those wide, watery eyes.

A swift inspection convinced Carter that he would have no more trouble from that particular enemy. Then he rose from where he'd crouched over his fallen foe, and looked quickly about. He feared, for a moment, that the battle might have betrayed his presence to others in the village. But as seconds fled, and there was no sign of that Carter thanked his maker that the Fish Man had uttered no cry save the almost inaudible death gurgle.

As an afterthought, and an additional precaution, Carter stooped once more over the body of the renegade Venusian, picking up the pearling knife from where it had fallen beside the body. Stuffing this in his belt, Carter wet his dry lips with his tongue, and returned his attention to the shell huts of the village. Eagerly, his eyes searched along the strangely deserted street in an effort to locate the shell palace that apparently housed Atar, Fish Man chief of Maeku.

A sickening premonition assailed Manny Carter at that moment. Supposing he were too late? Supposing the apparent emptiness of Maeku meant that Chambers had already started the renegade Fish Men on their terrible mission? Then where would he find Eileen, and Sommers, and the rest of the party? Had they already been killed?

Carter was moving forward when he half-stumbled. Looking swiftly down at his feet, he gasped in numb horror. The objects he had almost tripped over were the utterly lifeless bodies of the two Foswins!

FOR a timeless, breathless period, Manny Carter stood staring horrified at the bodies before him. The middle-aged couple had been brutally, savagely, torn open by knives! Obviously the slaying had been perpetrated with the aid of the gruesome pearly weapons carried on the persons of the Maeku Fish Men.

Carter had to force himself to take his eyes from the pair, had to summon every last atom of willpower to lift his gaze from the Foswins and look elsewhere to see if the rest of the passengers had been similarly treated, murdered in cold blood.

Moving his eyes slowly around the ocean floor, Carter looked for indications of other struggles. There was a sort of relief, although but momentary, in the discovery that there had been no other struggles but the one that resulted in the brutal murder of the unfortunate Foswins.

"So the others must be still alive." Carter felt himself seized by blind ungovernable rage; rage at Chambers, futile maddening rage at what his own stupidity and trust had cost. Gone was his sense of caution, his wariness of danger. There was only one thought in Manny Carter's brain as he stepped out into the strangely silent streets of Maeku. He was going to find Eileen, and he was going to take primitive forceful vengeance on the deceptively good-natured Chambers.

Manny Carter had already killed, and he was ready, eager, to kill once more.

From shell hut to shell hut, Carter made his way along the street, opening doors, barging into empty, deserted dwelling places and rushing out again. At the end of the street stood the palace of Atar, leader of the renegade Fish Men.

In an instant, Carter was at the door.

Then he was inside the lofty building, heading for the place where Atar had left them just before Chambers enabled him to escape in the lifeship.

The carboncade lights burned brightly in every room of the building. Then Carter heard voices, and he stopped, breathlessly, to listen. The voices came from a door to his right, and one of them, he recognized with a heady flush of red rage, was Dan Chambers!

Swiftly, Manny Carter crossed the narrow hall, had his hand on the door. In the next moment he stepped into a small, brightly lighted room. Turning, astounded at his entrance, were Chambers, Alson Dodge, and Eileen!

Time hung motionless as Carter had the split-second panorama stamped into his mind. Dan Chambers seemed slightly dazed, and there was a jagged gash along the arm of his space suit. On the floor beside Eileen and her father were thick hemp coils, evidently used as bonds for the pair. Eileen's face was white, terrified, making the tumbled maze of her magnificent red locks seem even more brilliant beneath her space helmet.

Alson Dodge was looking at Carter with a bewilderment that was rapidly turning to rage.

Carter switched his receptor mechanism open with a quick automatic gesture. "Carter," he heard Alson Dodge grate. "By God, you have your unholy nerve!"

Then Chambers' voice broke in: "You renegade swine, Carter. Have you come back to finish your rotten work?"

Eileen merely stared at him with an unspoken look of mingled revulsion and bewilderment. Then Carter spoke his first words. "Damn you, Chambers! I don't know what in the hell this is all about. But I finally figured out your little scheme. And you're through, Chambers. Do you understand me? I'm

going to kill you. Burn the guts out of your rotten body." His atomic torch pointed at Chambers, Carter advanced slowly across the room.

"Stop," the sudden almost hysterical command came from the lips of Eileen Dodge, and it was enough to make Carter halt momentarily. "Haven't you done enough?" the girl was saying. "Murder, revolution, greed, isn't there anything you'll stop at? Do you have to kill again? Have you gone stark, raving mad, Manny Carter?"

AT that instant it became terribly clear to Manny Carter that Chambers had once more played a trump hand. Chambers was making Eileen and her father think that he, too, was an innocent victim of Carter's ruthlessness.

That he, himself, had escaped the clutches of the Maeku Fish Men and was trying to save them.

He had undoubtedly told them that Carter's escape in the lifeship was the signal for a revolt which had been planned ever since the murder of Prince Bramm. That explained the deserted streets. The renegade Venusians were probably already on their way to surprise the peaceful Fish Men and unsuspecting earth colonists on Twenty. And Chambers, who had cleverly stayed behind, was playing his just-in-case hand. He was pinning it all on Manny Carter, and if it didn't succeed, Chambers would still emerge a hero—even in the eyes of Eileen!

Manny Carter realized, as the sweat beaded itself on his brow and trickled tauntingly down his face, that Chambers had him stopped cold. It would do no good to kill Chambers, for in the cunning brain behind that handsome face there was the only knowledge that would ever clear him. If he blasted Chambers into eternity he would have

slight satisfaction, for into eternity would go, also, the evidence that could save Manny Carter and redeem him in the eyes of the world and Eileen Dodge. And Chambers, smirking sardonically in Manny's direction, was evidently quite aware of that.

"What do you intend to do with us, Carter?" Chambers was saying, and doing a beautiful bit of acting as he spoke.

The smirk on his face became slightly more evident, agonizingly irking to Carter.

"I should," said Carter levelly, "blow you to hell anyway. Just to see you die!"

Fear slid quickly across Dan Chambers' face, then vanished with Carter's next words. "But I won't. I'm going to make you talk. Somehow you're going to spit out the truth, whether you like it or not."

"You're raving, Carter. I'm more than positive that you've gone mad. Drop that atomic torch, man. Things are bad enough for you as it is, without making them any worse." Chambers was playing to a full house now, and taking devilish relish in it. He could be the heroic figure, arguing a murder-bent, raving killer out of his wildness. Oh, yes, very, very heroic. A performance that wouldn't hurt Eileen's opinion of him in the slightest. He was playing it to the hilt, even to moving over to where Carter was standing. But Carter, seeing his intention, raised the atomic torch immediately.

"Get back, Chambers. Get back, or I'll forget myself. Your plans wouldn't be worth a spark on Mars if I killed you!"

"Don't try it, Dan. He's gone mad, I tell you." The voice was Eileen's, and of all the sentences that had been spoken since Carter entered that room, hers was the one that hurt the most.

Suddenly Manny Carter knew where

his only chance lay. It was a wild, almost impossible scheme. It would be the end of things if there were any remaining Fish Men of Maeku still in the village. But it was a chance that had to be taken. And the way Manny Carter felt, he'd gamble on a Fish Man surviving an air tank at that moment.

Manny gestured with his atomic torch. "Come on," he told the trio. "The lifeship is outside where I left it. We're going out there, all of us." Wordlessly, Eileen, her father, and Chambers moved as Carter directed them. They were in the hall when Chambers turned insolently to Carter. "You're just piling it up worse for yourself, Carter. I'll give you this last chance to hand over that torch."

"Shut up," Carter snapped in reply. "Shut up and keep moving."

THEN they were once more in the streets of Maeku. And Carter held his breath as he looked up and down the carboncade lighted avenues. There was still no sign of villagers. Undoubtedly they were on their way toward Twenty. The shark-finned creature Carter had slain on entering the village must have been a lone sentry left there by Chambers. Probably at this very moment Chambers was wondering what had happened to the Fish Man.

Silently, the odd-appearing group moved through the deserted streets of the undersea village. Carter noticed the quick glance that Chambers shot to either side as they drew closer to the fringe of the undergrowth surrounding Maeku. Undoubtedly he was trying to figure out what had happened to his Fish Man sentry.

"Looking for someone, Chambers?" Carter said softly. And from the sudden, involuntary jerk in the man's back, Carter knew he'd struck home with his question. Deliberately, he herded his

captives forward in the same direction that he had taken to arrive at the shell palace. They were retracing his steps, foot by foot.

Then Eileen screamed, and Carter cursed himself for not having concealed the bodies of the Foswin couple. Her father quickly stepped in front of the gruesome sight, shielding her from further view of the brutal scene, but it was too late, and Eileen fainted in Alson Dodge's arms.

"You swine," Carter heard Alson Dodge mutter, "you bloodthirsty swine, Carter!" Sickly, Carter realized that another atrocity had been attributed to his hand. But he clenched his jaws and forced himself to grate:

"Move on, even if you have to carry the girl!"

Carter was deliberately moving closer to his captives, until he was walking a scant three feet behind them. Alson Dodge was slowing up because of his added burden in Eileen. When they passed the queerly spread, pain contorted body of the Fish Man, Carter, listening sharply, heard Chambers' involuntary swift intake of breath. But that was the only sign that his enemy gave.

Then the underbrush grew deeper, until a few moments later they were in the jungle, heading for the lifeship. Manny Carter tensed his muscles in anticipation of the plan he waited for, moving even a few more inches closer on the group in front of him.

Then his chance presented itself, and moving silently, as swiftly as his muscles allowed him, directly behind Dan Chambers, Carter shoved with all his strength, bowling the unsuspecting captive off the tiny trail on which they had been traveling.

CHAMBERS' first reaction was a grunt of amazement as he tried to regain his balance, then an oath as he

realized he couldn't. His hoarse scream of utter terror came immediately with the knowledge that he was sprawling helplessly into the arms of a gigantic, flesh-feeding undersea pitcher plant of Venus!

Alson Dodge wheeled around as the cry from Chambers almost split his eardrums. He cried out in terror as he perceived what had happened. Then, dropping Eileen to the safety of the path, he started toward Chambers. But Manny Carter had anticipated as much, and his atomic torch was leveled directly at Dodge's head before the man realized it.

"Stand back," commanded Carter. "Dammit, stand back, or you'll get caught too."

"You pushed him," cried the horrified little man. "You, you pushed him!"

The agonized cries of Chambers had subsided to a low moaning whimper of babbling terror, and Carter spoke again. "Right. I pushed him. And no one's going to aid him until he comes out with the truth."

He faced Chambers, now. "Do you hear that, Chambers? I have a knife. It's your only chance to free yourself from that plant. You'll either tell the truth, or be eaten alive. Take your choice!"

There was a sickening, plucking sound, as the tentacles of the flesh-eating plant started their ripping pawing of Chambers' space suit. But Chambers was still whimpering incoherently, and sweat broke out anew on Carter's forehead as he realized that he wouldn't have the guts to let anyone—even Chambers—die under such horrible circumstances. He prayed silently to his

creator for the strength to hold out longer than Chambers. Carter forced his voice to the hardness of steel.

"Chambers," he spat. "It's now or never. Are you going to spill the truth?" Carter reached into his belt and drew forth the pearling knife he'd taken from the Fish Man. He forced himself to hold it tantalizingly near the flailing arms of the enmeshed Chambers.

"This knife can cut you free. But it won't, until you clear me."

But Carter had only to fight inherent decency. Chambers faced the madness of terror. And Chambers broke. "All right, for God's sake, I'll tell. I'll come clean, I tell you. Cut me free! For God's sake cut me free! I killed Prince Bramm. I framed you, started the revolt. I admit it, do you hear? I admit it. I admit it! Ohhhhh, God, cut me free!"

Carter turned to Alson Dodge for but an instant. "Enough?" he snapped. "Are you convinced?"

Alson Dodge, his face the color of death, could only nod and reply weakly. "Yes, that's enough. Now, free him. For the love of heaven, even he doesn't deserve to die like that!"

"CHIEF-ADMINISTRATOR of Venus," breathed a pretty red-headed girl on the balcony of the earth embassy of Twenty. "That's some promotion, even for a hero who staves off renegade revolts like people in stories."

"Yes," murmured Chief-Administrator Carter, taking a cue from the long forgotten balcony legend of Romeo and Juliet, "like a story, even to marrying the beautiful heroine and living happily ever after!"

### ON SALE IN DECEMBER FANTASTIC

Lafayette O'Leary returns! After five years, *KEITH LAUMER* presents the exciting sequel to his *AXE AND DRAGON: THE SHAPE CHANGER*, a complete new novel. Don't miss it!

immortalising household pets. Since then provision had been made for limited veterinary use of biostats, but horse racing and other activities in which an animal's true age played an important part had undergone upheavals. Thanks to the state of abundant well-being induced by a biostat in any normally healthy organism there had been a fad for the meat of immortal cattle, sheep and pigs which had never entirely vanished, even in the late 22nd century . . .

Sensing he was being stared at, Carewe turned his head. The baby on the woman's lap had pushed the folds of its wrap aside and brilliance from the aircraft's ports illuminated the pink, doll-like face. Two ocean-blue eyes—wise, yet imprisoned in permanent psychosis by an infantile inability to distinguish between ego and the outside world—gazed humorously at Carewe. He shrank away instinctively as the baby reached towards him with a dimpled hand. Suddenly aware of his reaction, the woman pressed the baby to her breast. Her eyes fastened on Carewe's, momentarily challenging, then slid away to contemplate the private horizons of a universe to which all men were strangers.

*Six months old*, he thought a kind of mindless panic. The child appeared six months old but in fact it could be the same age as he himself. He listened to the burgeoning whine of the aircraft's engines for a few seconds then stood up hastily and went aft looking for a vacant seat. The only one available was beside the flight steward's station. Carewe dropped into it and sat tapping his front teeth with a fingernail.

"Got to you, did she?" The steward spoke sympathetically.

"Who?"

The steward nodded forward. "Mrs. Denier—the Flying Dutchwoman. Sometimes I think we ought to charge her

double fare."

"You know her?"

"Everybody who works the Lisbon run knows Mrs. Denier."

"She's a frequent traveler?" Carewe tried to sound only mildly interested.

"Not frequent, but regular. Every spring. They say she and her husband and kid were in an accident on this route years ago—the husband got himself killed."

"Oh!" Carewe decided he did not want to learn any more. He took a deep breath of plastic-smelling air and stared out the window as the aircraft began to move.

"She did ten years corrective for fixing the kid, and since then we get her every spring without fail."

"Quite a story."

"They say she's trying to re-live the past or get herself killed the same way, but I don't believe it. She's probably got business on the other side. Women don't grieve that long."

The aircraft reached the center of the tubefield and the engine note climbed. This was the phase Carewe detested most—when the ship was beginning its vertical climb and there was neither reaction time nor airspeed to save them if the engines failed. He tried to take his mind off flying.

"Sorry," he said. "The engines."

"I said women don't mope around that long."

"How long?"

"Lowest estimate I ever heard was thirty years. Could you believe it?"

Carewe shook his head, thinking of the worn clip on the child's carrycrib. The fastening could not have pared down so far in thirty years. As the aircraft lurched unevenly into the air he gripped the arms of his seat and wondered if this was going to be the year in which Mrs. Denier got her wish.

IT WAS LATE afternoon when the Unations shuttle from Kinshasa, whistling north-eastwards in near-ballistic flight, overflew the scattered township of Nouvelle Anvers and curved towards a forest clearing.

On the commercial flight down from Lisbon earlier in the day, Carewe had kept a hopeful eye on the scattered trees and shrubs which gave the northern savannah its pastoral appearance. He had only the vaguest notion as to where the Fauve team, for which Farma held the supply contract, was based—and had it been somewhere in the park-like savannah the next few months could be reasonable, almost pleasant. But the character of the landscape had gradually changed; and now the shuttle was hurtling over an evergreen forest which looked as though it could swallow humanity in general, and Carewe in particular, without a trace. His mood of despair and self-recrimination deepened. The whole crazy, melodramatic idea of joining a Fauve team should have been discarded that first grey morning after he had broken with Athene. Fauve service was carried out on a purely voluntary basis, and his backing out would have affected Athene even less than his original decision to go. It was typical of his character that he should be compliant in situations which demanded resolution, and illogically rigid when commonsense told him to bend with the wind.

As the shuttle banked through the slumbrous yellow air he glimpsed a curiously localized rainstorm a few miles to the north. He had just enough time to search the upper sky and detect the insubstantial tautness of weather control fields before the tree-line surged upwards and blocked his view. The shuttle landed in the clearing's confines and its engines

burbled into silence. He unbuckled his safety harness, stood up and followed the shuttle's four other passengers—all bearded and uncommunative funkies—to the exit. They stepped down onto the flattened grass and were driven away in a waiting bushcar towards a break in the trees, leaving Carewe feeling utterly lost. He was peering uncertainly through the hatch, tasting the humid alien air, when the pilot emerged from the nose compartment. She was a sturdy blonde in a blue Unations field uniform, who eyed Carewe with a wry sympathy for which he was profoundly grateful.

He jerked his head at the palisade of trees. "Can you direct me to the nearest civilization?"

"What outfit are you? Farma?" She sounded Australian or English.

"Farma," he confirmed, reassured at hearing the name of the company in the unfamiliar environment.

"Don't worry—they'll be along presently—I brought them some supplies. You might as well relax till the truck gets here. The humidity around here wrings you out in no time." She glanced at Carewe's hairless chin, then pulled off her skirt to reveal a faintly muscular but very feminine torso. "I'll be back in Lapland next week, so I'm going to take the free vitamin D while I can." She threw the shirt across a seat and sat down on the shuttle's steps, breathing deeply as if to give her breasts maximum exposure to the sun.

Carewe's heart thudded steadily—he had not foreseen all the side-effects of masquerading as a cool. World fashion was in one of its cyclic swings away from female nudity, but to a large extent women disregarded the old sexual conventions when in the company of non-functional males.

"I'll stay back here," he said. "I blister



easily." He sat down again, astonished at the persuasiveness of the feelings aroused in him by a not particularly attractive girl. The interior of the shuttle grew warmer and he closed his eyes. He could feel a sense of guilt about having deceived the girl—and that must be the catalyst . . .

The sound of the truck's door slamming awoke him an indeterminate time later. He went to the hatch and stepped down onto flattened grass where the pilot was fully clothed again and talking quietly to a small man who had the thick sloping shoulders of a weightlifter. The new arrival carried a paunch which strained the thin material of his Unation field uniform and his graying hair was sparse, but a corona of silver bristles on his jowls proclaimed he was still functional.

"I'm Felix Parma, transport manager," he boomed up at Carewe in a Scots accent. "Sorry I'm late. The computer said you'd be here, but I guess I overslept. Rough night, last night."

"It's all right." Carewe stepped down and shook the proffered hand, acutely aware of Parma's quizzical blue eyes scanning his face. The older man exuded a sweet soupy odor of perspiration but—Carewe felt a flicker of resentment—it was because of him the girl had put her shirt on again. "Were you working late last night?"

"I'll say." Parma did a speeded-up mime to show he had been drinking, and grinned. Carewe noticed the veining on his button nose. "D'you take a drop yourself?"

"It's been known to happen. On rare occasions." Carewe felt the beginnings of affection for the physically decrepit funkier who had driven out of the unknown and spoken to him in the kind of language he understood. He was baffled as to why Parma should have let himself go *so far* without tying off, but in all important

respects he could visualize the man as a friend.

"Ever been to Africa before?"

"No."

"Then this is a rare occasion, William. Wouldn't you say?"

"Rare as they come," *Why*, Carewe wondered, *did Athene do it?*

"We'll have a drink," Parma announced with the air of a man resolving weighty deliberations. "Give me a hand with these boxes."

Carewe helped him carry several alloy-clad containers from the shuttle's cargo hatch to the truck, while the pilot sat on the passenger steps and combed her hair. He wondered if that could be for Parma's benefit too—in a world in which nubile females so greatly outnumbered functional males he had seen more unlikely matches. When the boxes were all transferred Parma waved a casual goodbye to the girl and leapt into the driver's seat.

"Let's go, William," he muttered. "That's a handsome lass, but we're wasting good drinking time." He threw the truck into drive and they went dipping and swaying across the clearing. Looking back for a last glimpse of the pilot, Carewe again noticed the strangely restricted rainstorm several miles off, a cloud column of dusty grays and ominous purples standing against the settling sun like the aftermath of a hell-bomb.

He touched Parma's arm and pointed. "What's going on over there?"

"That's the operation, William." The truck lurched into an already-shadowy lane cut through impassive trees. "That's where we're working."

"I don't get it. I saw weather control fields as I was coming in, but . . . It must cost a fortune to siphon that stuff in from the Atlantic."

"It's worth it, William. That rainstorm's

centered right on the Fauve village. Been there three weeks. Officially it's part of the humidity reduction program for this part of Africa, but that's not the real reason it's there."

"Three weeks constant?" Carewe felt a vague dismay. "What's it doing to the people underneath?"

"Making them good and wet." Parma laughed and spat through the side window.

"And sick."

"And sick," Parma agreed readily. "If you'd ever done this kind of work before you'd have a strong preference for rounding up sick Fauves instead of healthy ones. That's the whole point."

"There ought to be a better way."

"There is—gas. Or dust. Either would be neater and quicker and cheaper, but we're all snarled up by the Helsinki Convention. You know, William, you can get killed by a Fauve and nobody will say a word; but if you even graze one of *them* with a flechette you're in trouble." Parma switched on the headlights to counteract the swiftly gathering darkness ahead, and the surrounding trees seemed to close up their ranks. "Have you ever seen a dead man?"

"Of course not," Carewe said quickly. "The rain demoralizes these people, I guess."

"That's it. A bunch of them decide to break away from the tribe and go Fauve. They build their own village and do a bit of old-fashioned marauding. Everything goes well for a while, then the normal sensible immortals in the area get sick of it and complain to us—but we don't charge straight in and wrestle with them. Not any more. The first thing our hairy-chested Fauves notice is that it has got hellish wet all of a sudden—and a few weeks of solid rain in the middle of the season starts them thinking they've offended somebody upstairs. After that it's usually fairly easy to

persuade them to come in and join the bitch society."

Carewe glanced at Parma's profile, that of a latter day Hemingway. "Whose side are you really on?"

"I'm not on the side of the Fauves, and that's for sure. I don't mind them opting for a short life and a gay one, full of blood and sperm and sweat and all that stuff, but they shouldn't kill other people, William. That's very wrong—wrong enough to justify undermining their faith that summer follows winter."

Lights began to appear at the distant end of the arrow-straight road. "At least," Carewe said, "the Helsinki Convention didn't foresee weather control as a weapon."

"Didn't it?" Parma laughed again. "If you ask me, the only reason it hasn't been proscribed is that it's the only weapon in constant, world-wide use in the present day. Ever read about the riots in Cuba during the three-year drought last century? It's been kept quiet, but I'd say the States had weather control even then, *and* used it."

"But you said . . ."

"In the present day. All you need is enough resources to provide you with bigger control fields and computers good enough to figure out the interactions, and you're all set to fight a war the quiet way, the bitchy way. Ruin a country's harvest, cause floods, make it so hot and humid that folks who part their hair on the right start killing folks who part their hair on the left. That's really making war, William."

"I'm still not sure which side you're on."

"It doesn't matter—I do the work. Parma of Farma they call me."

The lights ahead expanded abruptly as the truck reached another clearing ringed with prefabricated buildings of varying sizes. Parma pulled up outside the end chalet of a double row which formed a

miniature street terminated by dark trees.

"This is yours," he said. "We just got it put together this afternoon and the services haven't been installed, but you can throw your bag in for now. The boys will finish it while we're over at the Unations club."

Carewe hesitated. "I'd like to freshen up."

"At the club, William. We're wasting drinking time."

Carewe got out, opened the chalet's single door and put his bag inside in the resin-smelling darkness. Only twenty-four hours earlier he had been setting out with Ritchie for an unfamiliar, bachelors' evening of drinking, and he hoped the pattern would not repeat itself too closely. *What is Athene doing right now, this very instant?* He went back to the truck, feeling lonely again, and was driven across the clearing to a comparatively large geodome which housed the club. The circular interior with its central bar had the unmistakable atmosphere of a company-owned recreational facility. Folding tables and chairs were grouped on the springy, sectioned floor and a notice board carried an assortment of papers, some obviously official, some enthusiastically embellished by an amateur artist, talking of forthcoming entertainments. The building was warm, but Carewe shivered. When he returned from the washroom Parma was seated at a table, two half-litre glasses of beer in front of him.

"This is all they serve before eight," he explained. "It's supposed to discourage people like me from making beasts of themselves too early in the evening." He lifted his glass and drained it with a defiant flourish. "Not only is that attitude undemocratic—it's downright naive."

Carewe sipped his beer. It was cool, with a pleasant grainy flavour, and on impulse he emulated Parma, blinking as the tingling

fluid smarted his throat.

"I like your style with a pint," Parma said, using the old fluid measure which had become a drinkers' shibboleth. "Order up."

Carewe got two more glasses from the human bartender, a bored-looking cool who served the drinks with a conspicuous clumsiness which was probably intended to show he had another and more important job during the day. Not many men were in the club, but looking around Carewe saw a higher proportion of cools than he had expected. He recalled that Parma had made no reference to his apparently being a cool, had treated him with impartial male heartiness which had been balm to his ego. He wondered briefly if really having tied off would have made the change in his office friends easier to take.

"You get more cools in this line of business than I expected," he said, setting the glasses down. "What are they doing? Sublimating?"

"Don't ask me," Parma said disinterestedly. "I just do the work."

He swallowed half his drink, his veined nose butting determinedly through the froth, and Carewe felt his liking for the older man grow stronger. Sitting down, he tackled his own half-litre which somehow appeared more formidable than the first. Later in the evening the beers looked even bigger but, magically, raising one to his lips was sufficient to dispose of it. Carewe, who was not a practised beer drinker, marveled inwardly at his newfound power as the circular room gradually filled, became thunderous with voices, began to tilt and swing around him. Faces became two-dimensional masks, irrelevant, then he and Parma were outside staggering through gemmy darkness. Carewe had no idea where his chalet was but Parma guided him to the door. He shook hands and plodded away into the night without speaking.

Carewe opened the door, suddenly anxious to lie down, and flicked the light switch. The interior remained black and his drowned memory told him that engineers were supposed to have finished installing the services during the evening. His one earlier glimpse of the chalet had shown an environment control panel directly opposite the door. Carewe walked sightlessly towards it with both hands extended and felt the smooth plastic of the master switch under his fingers. It moved easily and the chalet filled with light—then he saw that the control panel's safety cover was not in place.

He stared blankly for a pounding moment at the array of high voltage terminals into which, for for a freakish piece of luck, he would have thrust his fingers. Unable to feel surprise or anger, he walked slowly to the bed and lay down.

Sleep came quickly, but in the dreams his frail glass body was in peril from great machines whose blindly thrusting crankshafts could have ground him to sparkling dust.

## CHAPTER EIGHT

THE MORNING SUN drove spikes of light through Carewe's eyelids. He sat up painfully, with hammering temples, and made his way into the chalet's tiny lavatory. His instinct on emerging was to lie down again, but Parma had said something about seeing the team co-ordinator first thing in the morning and officially signing on. He opened his bag, and took out a pack of the oxygen and ascorbic acid bombs he used to stave off the effects of hangovers, and quickly swallowed one. Its gelatin casing caused it to lodge uncomfortably somewhere in the upper part of his chest,

and he was going for a glass of water when the environment control panel caught his eye.

The bared terminals shone with quiet menace. Frowning, Carewe looked around and discovered the panel's safety cover lying on a chair. Memories wavered dimly. Last night he had blundered across the chalet and by pure good fortune had avoided shoving his fingers into the high-voltage wiring. His forehead prickled with perspiration, then he snorted at his own stupidity—without the cover in place the master switch could not be thrown and no power would have been available.

But the chalet's lights were on. The switch had moved easily.

Pressing his temples to ease the insistent pounding, he went closer to the panel and peered into the interior. The linkage which prevented the master switch from operating until it was engaged by a spigot on the cover was twisted and obviously ineffective. *Somebody tried to kill me*, the thought spumed through his mind on the instant, *and it's all Athene's fault*. His commonsense reasserted itself a moment later and he felt the vast, resentful anger of an immortal whose life has been placed in jeopardy by another's carelessness. The service engineer concerned was going to roast for this.

By the time Carewe had thrown his soiled clothing into the dispose-all and dressed in a fresh tunic and hose, his headache was clearing. He went out into morning light which stabbed into his eyes from all directions, as though the sky was ringed with suns. The air was warm and the heavy perfume of unfamiliar flowers invaded his lungs. He walked along the short street into the circular open space which was deserted except for two men in Unations blues lounging in the shade of an awning. Parma's truck was still parked outside the geodome of the club. Carewe was about to ask one of

the men for directions when he noticed the Unations symbol on another dome at the opposite rim of the clearing.

Inside it he found a female clerk at a long reception counter, beyond which stood the familiar cabinets of a computer terminal. Frosty plastic screens formed small private offices around the perimeter of the dome.

"May I help you?" The girl sounded sleepy, and only mildly interested.

"I'm with the Farma contingent—Carewe's the name."

"Yes?"

"I want to see the engineer who installed the services in my chalet yesterday." He shielded his depilated chin from her questioning gaze.

"Have you a complaint?"

"Yes. His criminal negligence almost got me electrocuted."

"I'm sorry, but the engineer left on the first shuttle this morning."

"Then can you give me his name? I want to report the man to someone."

"To whom?"

"I don't know—anybody who can get him into trouble."

"You'd better talk to Mr. Kendy, the coordinator." The girl spoke disapprovingly, as though Carewe was breaking some unwritten law. She beckoned to him and led the way to one of the offices, where he found a young-looking cool with crewed blond hair seated at a desk. Kendy was very muscular for a cool and his pink skin glowed with health. He shook hands with a firm, friendly grip, listened attentively to Carewe's story and made notes.

"I'll follow this up, of course," he promised. "Now, Mr. Carewe, it's quite late in the morning—are you ready to go to work for us?"

"That's what I'm here for." Carewe's lips felt like dead flesh as he smiled. "But to tell the truth, I'm not too sure what I can do. I

just came out here . . ."

"Don't apologise—the Beau Geste syndrome is what keeps us in business to a large extent." Kendy folded a sheet of notepaper and used a corner of it to pick his front teeth, which were square and very white. "You're a representative of Farma, so you can help us by administering your firm's biostat. E12, isn't it?"

"But I'm an accountant."

"That side of things is handled in New York," Kendy said impassively, but with a trace of irony.

"I know, but I thought . . . maybe . . ."

"And I don't need any assistance in running this office."

"I didn't mean . . ." Carewe steadied his thoughts. "When will the actual round-up start?"

"It already has. The people we're dealing with are a displaced offshoot of the old Malawi tribe and they're more resistant to our weather magic than most." Kendy scribbled his name on a printed form and handed it across his desk. "Take this to the stores dome and they'll kit you out. The idea is that we'll keep the rain going right till the end of the operation and work under cover of the ground mist. And this . . ." Kendy set a blue form beside the first one, ". . . will get you an automatic."

"A gun?"

"Yes. Hypodermic variety, in case you've got scruples about violence. It isn't practicable to use individual shots for mass immortalization."

The two-seat floater that Carewe had picked up at the Unations transport pool rode easily over the rough track leading to the rainstorm which brooded on the northern horizon. He guided the little machine self-consciously, almost ashamed at having discovered in himself a sense of

adventure. At this time on an ordinary day he would have been sitting at his desk in the Farma headquarters, pretending to monitor computerized accounting procedures, but in fact merely counting off the minutes to lunchtime. Now here he was clad in Unations blues, driving an unfamiliar vehicle along a road he had never traversed before, with the African sun beating down through the alien forests.

Carewe rediscovered the truth that his physical arrival in a strange place was an unimportant event—the real significance lay in his psychological/spiritual arrival. The latter was always delayed, sometimes by a matter of days or even weeks, by the fact that while he was in the company of other people he could never truly be himself, and therefore was barred from reacting to the new environment. As a young trainee, he had once gone to a three-week seminar in Polar City and had spent the whole period in a kind of numb dismay over his inability to feel any sense of strangeness. But on the very last day, freed of the lecture program and the insistent company of his fellow accountants, he had wandered clear of the city and walked more than a mile into the ancient icescapes. On the exact instant of rounding a blindingly white hummock, thus losing optical contact with civilization, he—Will Carewe—had discovered himself to be in Antarctica as if dropped there by a sorcery which had plucked him from his normal life a split-second earlier. Its timeless, inimical beauty had paralysed him, stilling his breath, filling his eyes with visions which would never fade.

A similar intellectual revelation was sweeping over him as, suddenly alone, he jockeyed the floater past clumps of brilliantly coloured rubiaceae shrubs whose calyx-lobes filled the air with a silent visual clamour. Danger and excitement, new

experiences, lay ahead; and if the immediate future could hold so much challenge—what of his million tomorrows? This sense of having been gripped by Life, of being imbued with its rainbow-colored essences, could not compensate for the events which had led up to it, but he was *alive*. Aware that he was undergoing an emotional reaction, equivalent to one of the occasional flashes of elation which are a part of normal mourning, Carewe tried to damp down his psychic temperature, but he was whistling discordantly as the track suddenly dipped towards a fairly wide river. Its waters appeared brown and sullen, probably as a result of the sustained deluge the weather control team had created in the vicinity.

He slowed the vehicle a little to avoid throwing up too much mud and aimed its nose at the track's continuation on the opposite bank. The floater waltzed confidently across the fast-moving water, then—in mid-stream—its engine cut. There were no preliminary warnings such as a drop in power or a change of turbine note—just a complete and instantaneous shutdown. The floater hit the water with a hissing explosion as the hot metal of the engine was submerged, and three seconds later Carewe was sitting in a dark brown plastic bubble at the bottom of the river.

He screamed for help.

An indeterminate time later he became aware that shouting was not going to be enough. He closed his mouth with effort. The emergency cushion field had prevented him being thrown against the control panel, and the superb engineering of the floater's cabin saw to it that no water was coming in—but if he continued to sit there he would suffocate. He unlocked the door and pushed it. Nothing happened and, suddenly afraid the frame had been distorted by the impact, he drove his shoulder against the tough

plastic. Water spattered momentarily against his ankle, but the door remained immovable, held by the outside pressure. The problem was to equalize the interior and exterior pressures by admitting water, but after Carewe had exhausted himself by repeatedly shouldering the door the floor of the cabin was scarcely damp. He thought of screaming again, then came a grim acceptance of the fact that his cherished million tomorrows lay in nobody's hands but his own.

No water was coming into the cabin; yet during the previous drive he had been plentifully supplied with air—which meant the intakes must have sealed themselves on contact with the water. A possible weak spot? With some difficulty he pulled the trim panel from the roof, exposing plastic pipes snaking away from a multiple fitting which obviously passed through the vehicle's outer skin. He seized the pipes and wrenched them downwards. They stretched slightly under the strain, but remained in place. Losing control of himself again, he attacked the ventilation system, clawing and twisting it with all his strength until a steely tightness in his chest told him he had almost depleted the cabin's supply of air. The plastic pipes, engineered to Unations specifications, showed no evidence of damage or weakening.

Carewe fell back in his seat, his lungs pumping like an archaic engine, shocked by the raucous animal-sound of his own struggle for breath. Could this really be the . . . ? His eyes focussed on a tiny switch on a flange of the ventilator intake fitting. He reached up, moved it with one fingertip—and water gouted from the ventilator grills.

It took all his self-control to remain motionless until the cabin was almost filled. The air remaining in the narrow space between the lapping water and the roof was

virtually unbreathable when he tried the door again, but this time it opened with relative ease. He pushed himself clear of the vehicle, surfaced and swam to the bank. A strong current carried him downstream some distance, but he was able to scramble onto dry ground without difficulty and make his way back to the track. The clay-colored water, translating gravitation into a seemingly horizontal movement, slid swiftly and silently over the spot where the floater must have lain, covering all trace of it. Had he not noticed the manual override control on the ventilator he would still be down there—and nobody would even have thought of looking for him until nightfall . . .

Carewe found he was on the northern bank of the river, with the columnar rainstorm looming high on the horizon. The lightweight plastic armour issued to him at the base was at the bottom of the river, but he had the hypodermic gun securely put away in his pouch. He decided to complete his journey on foot, in spite of the fact that he had a very good excuse for turning back. *A second murder attempt within twenty-four hours*, an inner voice said, *would be enough to discourage anybody*. He dismissed the idea automatically as he began to walk in squelching shoes, but it returned without any undertones of emotion, as a purely logical proposition. All Unations equipment was engineered to the finest specifications that 22nd century technology could meet—what were the odds against an accidental engine failure at the single potentially lethal point on his journey? And what astronomical level did those odds reach if one compounded them with the unusual circumstances of the missing safety cover on his chalet's environment controller?

But nobody at the camp had any reason to kill him—before last night none of them

had ever seen him. Carewe filled his lungs with golden light, suddenly aware that his new clothing had shed the river water and he was almost dry, if a little grubby looking. He pulled the tunic's solar screen over his head to shut off the growing heat of the day, and began to walk more quickly. The rainstorm rose higher and higher until he could hear it as an ominous hissing and growling which disturbed the morning air. Somewhere up above, at the limits of the stratosphere, men and machines were at work manipulating the elements and, through them, the minds of other men. The concept dismayed Carewe, who understood what was happening and was part of it. So what, he wondered, had it done to the people in the Malawi village when they discovered the sky itself had turned against them?

Mists began to writhe across the track ahead of him, and he saw the outlines of men and vehicles. The storm now filled his whole vision with roiling grayness and cold tendrils of moist air touched his face, while the fierce heat of the sun played on his back. The air was filled with imminence; the whole of creation was unnatural, a scene lit by floodlights, while the stage managers in their sub-orbital flight controlled the effects. Carewe zipped his tunic tighter around his throat.

"What's the name?" The man's voice came from the open door of a parked trailer.

"Carewe. I'm with Farma." Carewe fumbled for his identification.

"It's all right. Go ahead—Mr. Storch's expecting you."

"Thanks."

"You'll find him about a kilo down the track." The speaker put his beard-shadowed face out into daylight, and surveyed Carewe curiously. "Where's your transport?"

"Back there—I had some trouble. Can you give me a ride?"

"Sorry. No vehicles beyond this point." The man disappeared immediately.

Carewe shrugged and kept on walking. Within a minute visibility had dropped to fifty paces and the rain was spattering around him, but the solar screen deflected it, maintaining him in a cocoon of dryness. After five minutes of plodding through red mud he neared a group of about thirty men in pale green armour. One of them detached himself and came towards Carewe. He was a thickset funkier with patient, quizzical eyes and a sunburnt face which managed to be handsome in spite of a nose which had been crushed sideways and a white scar which interrupted the line of the upper lip.

"I'm Dewey Storch," he said, holding out his hand. "They told me you had arrived, but where's your armour?"

Carewe shook the offered hand. "It's in my floater."

"You'll have to go back for it. Didn't they tell . . .?"

"I can't. It's at the bottom of that river back there—the floater sank right in the middle of it."

"How do you mean *sank*?" Storch's brown eyes scanned Carewe's face.

"I mean it in the usual sense of going straight to the bottom." Carewe began to feel impatient. "The engine cut on me, and I was lucky to get out."

Storch shook his head slightly. "I still don't get it. You say the engine cut on the river—but didn't the flotation balloons inflate?"

"Flotation balloons?" Carewe's jaw sagged. "There was no sign of them—they went to the bottom like a stone." He fell silent, trying to assimilate the fresh information. If an emergency system had failed to operate at the time of the freakish engine failure, the odds against it being accidental were thrust into a new order of



magnitude.

"This will need looking into," Storch said. "They must have given you a vehicle which was partly stripped for maintenance. That kind of failure just shouldn't happen."

"That's what I was thinking," Carewe replied heavily. "I nearly didn't get out."

Storch examined him with a concern Carewe found gratifying. "I won't ask you to come into the village with us today. If you walk back to the trailer you can get . . ."

"I'd prefer to go with you." Carewe needed to get his baptism over with, but he wanted even more—and for no reason he could pinpoint—to make a good impression on Storch. Perhaps it was something as pathetic as a desire to show that beneath the exterior of a cool he was still a "man".

"We're short-handed, Mr. Carewe, but I couldn't allow you to take that much of a risk."

"It'll be entirely my own responsibility."

Storch hesitated. "All right, but stay well to the rear and don't come forward till I signal. Got it?"

"Right."

The group moved off down the trail. From the desultory conversation Carewe learned that the Malawi settlement was not really a village, but a scattering of dwellings in clumps of up to a dozen which spread over perhaps four square kilometres. The sub-unit which lay just ahead was the first to be tackled in the operation, and there was no telling what sort of reception the team would get. Preliminary reports indicated the Malawi had no firearms, although nobody was sure how reliable the information was.

When the first of the thatched huts came in sight the group fanned out and blended into the foliage. Carewe got the impression they were not amateurs like himself. He moved in behind a tree, self-consciously, feeling like a kid playing cowboys, and

waited for something to happen. There was silence except for the constant blurry voice of the rain.

Suddenly he saw the Unations men running, their green armour glinting like the body segments of giant insects. They raced through the slow-churning mists, closing in on the huts. Carewe's heart began to pound unpleasantly as a faint scream reached him. It was followed by hoarse shouts and more screams which quickly reached a crescendo, then a return to comparative calm. Storch's blocky figure appeared, waved to Carewe and vanished back among the huts.

Carewe ran forward reluctantly and reached the dwellings. The armoured men had rounded up a group of about twelve dispirited-looking tribesmen. Most of the natives were kneeling in the mud, but several were struggling and being held with difficulty. Women and children were watching from the entrances of the huts, and from these came occasional ululating sobs. One of the kneeling men had an ugly gash on his scalp, from which crimson deltas mingled with rain coursed down his back. Looking at the blood, Carewe felt a slow stealthy retraction of his testicles. He was gripped by a cold repugnance for what the Unations men were doing.

"This is our anthropologist, Dr. Willis," Storch said beside him. "Go around with him and administer a shot to any man he judges to be sixteen or over."

"Sixteen! That's the official limit?"

"Yes. Why?"

"It seems early to be . . ."

"We're dealing with Fauves, Mr. Carewe. *Fauves*. Don't get notions about depriving anybody of the butterfly touch of first love, or anything like that. At sixteen some of these people ought to be worn out."

"It still seems early," Carewe said stubbornly, glancing sideways at Willis,

who was a cool with white eyebrows like gull's wings.

"I know what's on your mind, Mr. Carewe," Willis said. "But we are dealing with men who have rejected all the values of our society. That's their privilege, of course—we don't relish forcing immortality on anybody. But, by the same token, we will not permit them to inflict death on others."

"This isn't the time or the place for an indoctrination talk," Storch put in crisply. "I advised you to go back to the camp and rest, Mr. Carewe. If you aren't up to the work you're only wasting your own time and that of everybody else. Now, are you going to administer those shots and let me move on to the next part of the village, or have I to stay here and do it myself?"

"I'll do it," Carewe mumbled, opening his pouch. "I'm sorry—perhaps I'm shaken up a little."

"It's all right." Storch made a signal and four men joined him. The splinter group quickly moved away among the huts.

"Start with those three." Willis pointed at the natives who were under restraint. Two of them quieted instantly, but the third redoubled his efforts to break free. He was in his early twenties and his arms were massive, with a slight varicosity of the biceps which told of long hours of punishing work. The two men holding him were almost lifted off their feet as they executed a grotesque, slithering dance in the mud. Carewe lunged forward with the hypodermic gun at the ready. The native, his face contracted with fear and hatred, threw himself backwards so violently that the two armoured men went down with him.

"What are you waiting for?" one of them snarled disgustedly.

"Sorry." Carewe ran around them, came up behind the native and fired the gun into the corded neck. The native went limp. A

few seconds later the Unations men released him tentatively, and got to their feet. Carewe worked his way around the others, relieved at the submissive way in which they held out their wrists for the shots, yet despising them for it at the same time. He kept his eye on the first man he had treated and saw him walk dejectedly to the door of a hut, where a tall young woman took him in her arms. She brushed away some of the mud clinging to the vest which was all that covered his torso, like a mother fussing over a child. Her eyes, shining in the dimness under the hut's eaves, opened and closed slowly, twin heliographs flashing Carewe messages at whose meaning he could only guess. *I gave up too soon on Athene*, the thought exploded in his head like a grenade. *I ought to get back to her.*

"That takes care of this lot," one of the armoured men said, wiping the sweat and rain from his stubbled face. "Let's get out of here."

Carewe's mind was filled with thoughts of Athene. "How about the women?"

"We don't bother with them—they usually come into one of the Unations-treatment centers as volunteers. It's up to them."

"Oh." Carewe put the hypodermic gun in his pouch. "They don't count."

"Nobody said they don't count. They never go raiding, that's all."

"Everybody acts so fairly," Carewe commented. He watched the others get ready to move off in the direction Storch and the advance party had taken. "Just a moment, please. I want to speak to the first man we treated."

"I wouldn't recommend it, new boy."

Carewe felt the action was inadvisable too, but in his mind the native who had fought so hard against the shot represented himself. The black Carewe had not received E.80 into his bloodstream and tissues,

however, so Carewe had *all* the advantages. He picked his way through the staring men and children in the central clearing and went to the hut where the mud-splattered native was standing with bowed head. The woman moved into the darkness of the hut as he approached.

"Do you speak English?" he said uncertainly.

The man raised his head and his eyes locked with Carewe's like pins sliding into sockets, a silent interface of hostility, then he turned his face to the wall.

"I'm sorry," Carewe said inadequately.

(CONTINUED FROM PAGE 53)

him?"

"Yes."

"Please accept my sympathy. I understand it was by choice."

"I'm afraid so."

"I can't understand why."

"Personal reasons," the Professor said soberly. "Ed is the shining example of human obsolescence. He had been relegated to the ashcan for the next seventy years."

Duncan looked at him soberly. "You and he had known each other a long time. I greatly regret it."

They shook hands, and the Professor left and walked back across the campus. As he passed the new and smaller building that housed the Library, a girl with pigtails stepped out into the sunlight. "Oh, Professor!" she said. "I've decided to change my major to History—if you will sign my card."

He took the card and looked at her. "Any particular reason?" he asked.

She shook her head, and the pigtails flew. "A funny thing," she said, a light in her brown eyes. "I never liked history—but now it seems so alive. I've been reading more about Lewis and Clark."

He smiled, now more misty-eyed than he

He was turning to rejoin the Unations team when the woman emerged from the hut in a blur of frightening speed. She closed with him, her hand glinting with steel, then backed away. Carewe stared into her triumphant face for a long moment before looking down at the knife protruding from his chest.

He was kneeling in the mud, still shaking his head in disbelief, when the Unations team came back for him.

—to be concluded—

—Bob Shaw

had been all day. He signed the card and gave it to her. "Come in sometime and we'll talk about sources," he said. "There are still plenty of manuscripts to be translated."

He went on to his office, stopping for a moment of silence at Professor Johnson's door.

Alice was sitting at his desk, wet-eyed. "I was terribly sorry to hear it," she said.

"It's over now."


"Did you win the war this afternoon?" she asked, her blue eyes watching him.

"No." He checked his calendar—almost a useless gesture for the last ten years. "I may have won a skirmish, but not the war." He looked at the sealed window. Out there was green grass and there were eucalyptus trees and there was a mocking-bird singing on one branch, but he was insulated from it by a window sealed to keep the air-conditioning efficient. He turned back and looked in her blue eyes. "Technology and statistics and machines have replaced human beings," he said, "and it may take a hundred years to turn it back. In the meantime"—he smiled—"while we're waiting, let's go somewhere and have a drink—a stiff drink."

—Noel M. Loomis

**GREG BENFORD & DAVID BOOK:**

# **The SCIENCE in SCIENCE FICTION \***



## **NOT WITH A WHIMPER**

Our futures are usually Gargantuan. The nineteenth century optimists loved machines, and when they thought of the future they dreamed of giant factories, giant buildings and bridges. They never worried about the square-cube law that dictates the maximum size of physical objects, or about the intricate balance of efficiency and red tape that dictates the limits of complexity in social institutions. That's why their predictions so often went wrong. But modern science fiction isn't immune to this tendency: Harry Harrison once wrote a story about an awesome technology that employed giant electrical fuses, just like the simple ones in your home, instead of using the more sophisticated circuit breakers that were already in use at the time he was writing.

Dramatically speaking, the most imposing feature of gigantism—whether in objects or institutions—is its power to destroy. Everyone has fears of being

crushed. This is one of the standard ploys of a vast armload of sf novels. The human race is threatened by giant insects, or the disintegration of the moon, or collision with another planet or star. The apocalypse comes from nature's shattering blows. The first, unpremeditated question most people ask is, is there any danger of it happening? But then other questions come to mind: how big a bang does it take? What size calamity might we meet in the future? Take that planet wandering in from another star system—was that trip necessary?

Probably not. It doesn't take much to make human life impossible. Before we fly off in search of the more spectacular disasters, take a moment to consider how weak and vulnerable a species mankind is.

Suppose, for example, Earth's inclination to the ecliptic had been 60 degrees, rather than the 23.5 degrees it is. It is this inclination that causes our seasons, as each hemisphere of the Earth is alternately slanted away from and then toward the sun.

Such a 60-degree world would be a

nightmare. Summers would wilt all vegetation; winters would freeze everything solid. Only a narrow belt within about five degrees of our equator would be livable for most organisms. Life would have to face vast hurricanes that stripped the land bare and evolution would probably be slow.

Another example: what if Earth had condensed out of the primordial dust ten percent nearer the sun than it is? Then less than 20% of Earth's surface would be livable, because the tropics would be a furnace. There would be two bands where an ecology like ours could exist, separated by a vast equatorial desert. Land life would evolve independently in the two areas. No ice would form at the poles and the oceans would cover much more of the planet.

If the mean annual temperature abruptly increased by only five degrees F. for some reason (say the sun flickered a little), there would be drastic consequences for us. Enough ice would melt to raise sea level by roughly 100 feet. This would wipe out all the coastal cities in the world (one of the most overworked ideas in sf).

Take the opposite case; if Earth were 10% farther away, all land north of Milan, Italy (or Portland, Oregon) would be as cold as Anchorage, Alaska, is now. And water would be scarce in most of the warmer places.

Tiny changes in the composition of our air could make it a deadly poison gas. A little cyanide gas, a little more carbon monoxide, sulfur oxides or lead by-products from cars and industry . . . and we would all keel over together. If the minute amount of ozone protecting us from solar ultraviolet vanished, (see "Color the Sky—," *Amazing*, July, 1970), the friendly sun would turn killer.

Man is so closely tied to the specifications of Earth that none of the other nine planets, thirty-two moons or countless asteroids in

the system is really congenial. Even this stark view understates the case. Without his technology, Man's requirements are so exacting that throughout the galaxy perhaps one planet in several hundred would suffer him to live outdoors.

It is easy to see that exaggerating the natural fluctuations in our environment just a little bit would make Earth unlivable. If the Sun encountered a patch of dust on its journey through the galaxy and the dust cut off 40% of our sunlight for a few months, most of humanity would perish. Disaster doesn't take the movement of whole planets or even of asteroids; a little cosmic dirt can do the job.

Everybody is familiar with the usual disasters visited upon man—tornadoes, hurricanes, earthquakes—and it's clear that with enough of such local disturbances the Earth could be made a most unpleasant place indeed. Hurricanes, for example, contain a lot more energy than nuclear weapons; it would take several thousand Hiroshima-sized bombs exploding every minute to equal the power of a hurricane. What makes them less dangerous than an atom bomb is the fact that their destructive potential is spread over a large area. The fireball of a megaton H-bomb covers about ten square miles of the Earth's surface; a hurricane covers thousands. This is lucky for life on Earth. If hurricanes could pack their energy into a small volume, they would uproot all plant life and certainly disrupt the ecology. Tornadoes, which are short lived and far smaller than hurricanes, cause proportionately much more damage, because they are sudden and violent. Tornado winds can reach velocities of several hundred miles per hour; hurricanes rarely exceed 150 mph.

In discussing explosions or violent natural occurrences, it is important to make measurements with the right kind of

yardstick. *Energy* is the simplest unit to use. It means the ability to do work or make heat, concepts we intuitively understand. *Power* is the rate at which energy is used up or work is done. A small amount of energy released quickly may be more powerful than a lot of energy released over a long time. Thus, some lasers produce pulses with a power level of 10 kilowatts, a thousand times as great as the largest electric power station in the world. But the total energy in a laser pulse is less than that produced by the burning of a single pound of coal. The power levels reflect how fast energy is used, not the total amount. For processes which take place at a constant or nearly constant rate, the most meaningful quantity to use is power. For processes which take place in a single shot or in bursts, total energy is more descriptive.

A third way to measure the ferocity of a cataclysm is in terms of *energy density*. Energy density is energy per unit volume or area. A small-calibre rifle bullet and a pitched baseball have about the same energy. The bullet expends its energy on a spot a quarter-inch across, but the baseball, having a much larger cross-section, can be caught in a mitt. The two objects deliver very different energies per unit area; that's what counts. Likewise, a hurricane and a wind that barely twitches the leaves in a tree are both movements of large air masses, but the energy density of the hurricane is ten thousand times as great.

These examples illustrate the basic idea. Energy is dangerous when concentrated. Spread out in space (low density) or time (low power), it poses no threat to human life.

An even better example of such lucky dissipation of energy is the tides. They are caused by the moon, with a little help from the sun. Our moon circles about the Earth and exerts its gravitational attraction on the

planet. If Earth were rigid rock there would be no apparent effect. But Earth has oceans—the only ones in the solar system, it seems—and the water in them flows easily when tugged by the moon's attraction. The ocean nearest the moon bulges up toward it, raising the tide. But the moon pulls all the water on Earth toward it. That on the far side, being most distant, feels the weakest pull. It hangs slightly behind as closer waters sag toward the moon, leaving a second bulge. As the Earth rotates, these two bulges travel around the ocean surface as high tides. A high tide passes each point on the ocean face every twelve hours, on the average. In between, six hours before and after high tide, comes low tide.

The height of the tides is determined by the mass of our moon and how far away it is. Right now the maximum tide is about four feet high, except in anomalous channels on the sea coasts. But of course, that's where the action is. When the tide piles into a bay or channel it can raise the water level twenty feet or more, flood coastal lowlands and back up rivers.

Thanks to the churning effect of tides, the 10% of the ocean water nearest land gets thoroughly mixed in a few months to a year. In contrast, the open seas mix much more slowly—a hundred years is a typical time scale—and the water in troughs on the ocean bottom stands for thousands of years. It takes work to accomplish this mixing. Each second, tidal friction dissipates as much energy as the Hiroshima and Nagasaki A-bombs together. And that's only the rate at which tidal energy is lost by friction. The energy in the tides at any one time is equivalent to about a thousand megatons of TNT—enough, if it were concentrated, to destroy every city in the world. Since it's spread out over every sea coast, though, the tide merely pushes sand and seaweed up on beaches in harmless

fashion.

It wasn't always so. The moon was probably not born of the Earth; many astronomers now believe it was an independent planet which was captured into a retrograde orbit—that is, revolving about Earth in the direction opposite Earth's rotation—several billion years ago. Why was it captured? Nobody knows. If only the Earth and Luna were involved, capture would be impossible; there would be no way for Luna to lose energy. The difficulty in gravitational capture is very much like a familiar high school lab experiment. Take a smooth, flat surface—like a sheet of plastic—and create a depression in the middle. Now roll marbles around on the sheet. If there is little friction the marbles will keep moving for a long time. A marble aimed toward the depression will fall into the hole and keep moving right on through, up the opposite slope. That's "conservation of energy"—the marble picks up velocity while it's falling downhill, and that velocity is enough to get it back up the other side.

The same thing happens if Earth's gravitational attraction substitutes for the depression in the sheet. Luna could fall into the Earth's field, all right, but it would move right out again.

To keep Luna in the gravitational "well" it is necessary to take energy out. That is the major stumbling block of the Luna capture theory—where did the moon's energy go? Here's an idea: the Earth already had one or two other moons. When Luna came zipping by, it smacked into one of those moons, scattering debris completely away from the Earth's field. It's as though our marble had struck a few BB shots at the bottom of the depression and knocked the shot out of the hole altogether. Maybe that's what happened to Luna.

Now, this newborn moon would create

tides on Earth—not necessarily in Earth's seas, since there may not have been any then, but in the crust itself. But remember action and reaction, just as Luna makes tides on Earth, the Earth makes tides on the moon. Both sets of tides dissipated energy, and the moon came closer and closer to Earth.

Because the Earth is not exactly spherical, the moon's orbit gradually tilted, becoming less equatorial and more circumpolar. Finally the moon reached the Roche limit, a few thousand miles above Earth's surface. At this point, gravitational stresses started to pull the moon apart. These stresses arise because the nearer face of the moon, being closer, tries to orbit Earth faster than the far side. The same thing would happen if artificial satellites in two circular orbits with different radii were tied together with a rope. The outer one would lag behind the inner one, pulling the rope taut or breaking it.

When the moon reached the Roche limit, it was already phase-locked; it kept the same face toward Earth all the time. The stresses in the lunar crust ripped great chunks of rock out of this face, tearing open the surface to let molten rock pour forth. This created the maria and left the mask-like pattern of the "man in the moon." (There are no sizable maria on the other face of the moon.)

The moon hung in torment above Earth for a few million years while its orbit tilted more and more, at last circling over the poles. Then it tilted further, so that the orbit was now in the forward direction. As soon as this happened, the effect of tidal friction changed. The moon began to retreat, which it's been doing ever since.

At closest approach it was only about five percent as far away as it is today. The view must have been spectacular. If there were oceans then, they must have been in

convulsions. The gravitational attraction between Luna and the sea varies inversely as the square of the distance. That means the tides would have been *several miles high*. A mountain range of water would seem to rush around the planet, sweeping deep into any continent that existed, smashing everything. No large form of life could exist near the sea coasts; it couldn't take the merciless pounding of such an enormous wall of water. (Perhaps the crust and sea heated up so much that the water boiled off, and Earth was swathed in thick clouds for a while.)

Life deep inside the continents wouldn't be very comfortable either. A moon that raised a two-mile-high wave of ocean water could produce a ripple in ordinary surface rock and topsoil at least several feet high. This would break up the soil, smash the slow-forming layers of bedrock and pulverize even simple grasses and fungi.

Now: imagine we evolved without a large moon. (That's difficult to believe, we'll admit, because without the tides the seas would be somewhat stagnant and evolution would probably have taken a somewhat different path, one that didn't necessarily result in human beings. But imagine it, anyway.) Then suppose a lump of rock as large as Luna came tumbling along one day, was captured and drawn in, and after a while we found ourselves on an Earth with monstrous tides . . .

The sf idea of planet-moving has always been a bit extravagant. There is just no known way to shove a planet around. Writers usually postulate "reactionless drives" or antigravity and then quickly pass over the topic. James Blish wrote a series of novels about cities that used "spindizzy" motors to lift themselves off the Earth and fly through the galaxy as autonomous units. Not content with launching cities, Blish used spindizzies (in *Earthman, Come*

*Home*) to send a small planet across the galaxy—and faster than light, to boot. We have always found it a little hard to believe a race with that much energy to spare would bother carting around planets or cities. If they wanted elbow room they could break up their planet and rebuild it as a thin ring around their star. They would have millions of times as much livable surface area with no need to travel to other stars to get it. Larry Niven has treated such a project in his latest novel, *Ringworld*.

Given the upward spiral of man's engineering ability, perhaps someday he *will* move planets. By that time, the disasters sf writers dote on will no longer be serious threats.

But there will remain things beyond man's control. Stars are much more formidable than planets. Lots of writers have based stories on a nova of our own sun. Arthur Clarke describes in "Rescue Party" how we might get away. Robert Heinlein, in "The Year of the Jackpot," describes how we might get caught. (The year he wrote about, 1952, has passed safely. So much for prophecy.) Man lives close to Sol's warming fires and is beginning to understand at least this local star. Its behavior is reassuringly stable. But others are evil-tempered and treacherous; sometimes they blow up. When they do, the resulting supernova consumes most of the star's solar system in one quick burst of fire. The outer shell of the star blows off and sails out at nearly the speed of light.

A supernova isn't just a big nova. Supernovas are rare and poorly understood; novas are relatively commonplace (about 100 per year occur in our galaxy) and almost always affect stars in close binaries. Astrophysicists have worked out the detailed behavior of such explosions. With supernovas, in contrast, half a dozen theories still compete for acceptance.



Supernovas may involve a loss of ten percent or more of the star's mass; a nova temporarily deranges the star's behavior, but the star returns to nearly normal afterward.

We would have no warning if one of our neighbor stars became a supernova. We would, of course, see irregular disturbances in the light from the star, and probably wonder what was happening. But since men have never seen a supernova close up we have no way of knowing when it's about to happen.

Just how big a bang does a supernova make? The answer is a number with a lot of zeroes. The energy in an earthquake or an H-bomb is a big number, too. It's a good idea to collect some of these figures in a table for comparison. Ordinary energy units are inconveniently small, so we'll use as a standard the energy in one Hiroshima type A-bomb. That's about equivalent to twenty kilotons—20,000 tons of TNT, enough to destroy a city of two hundred thousand people; killing or injuring almost all of them.

<u>Event</u>	<u>Approximate Energy in Units of Hiroshima A-bomb</u>
Tornado	$5 \times 10^{-3}$
Gilbert Inlet Avalanche (July, 1958)	8
Tungus "meteorite"	200
100 megaton H-bomb	$5 \times 10^3$
Largest recorded earthquake	$10^4$
Hurricane	$2.5 \times 10^4$
Tambora, Indonesia, Volcanic eruption (1815)	$10^6$
Stopping Earth's rotation	$3 \times 10^{15}$
Moving Earth away from sun	$10^{20}$
Nova explosion	$10^{24}$
Supernova explosion	$10^{31}$
Quasar fluctuation	$10^{32}$

Suppose a nearby star went supernova. Suddenly, the star would flare; it would become a blinding point of light. The light would be weak compared to our own sun, though, and not dangerous. On the heels of the light would come the high-energy particles that the nova spat out, and these would do the damage. A sustained burst of radiation could raise radiation levels on the Earth's surface to the danger point. Most such particles that come from our own sun are absorbed by our thick envelope of air, but those from a supernova would get through. The human race could die of radiation poisoning, or be rendered almost entirely sterile. Poul Anderson wrote about such a calamity some years ago, on another planet far from Earth, in a story called "Supernova."

The only protection men might find would come from deep tunnels burrowed in the Earth. Even then, most of our life sphere would die, for the more sophisticated the animal, the more susceptible it is to radiation.

Quite recently scientists have come to suppose that there may be many more supernovas in our galaxy than we had at first imagined. After all, on Earth we do not see most of the galaxy. Banks of galactic dust lie in the rotation plane of the galaxy and hide the center. We know there is a center because we can see galaxies like ours, and they show bright blobs of light at their core. Only very recently have we begun to get radio and infrared measurements of events there.

The core is thickly packed with stars. The average separation of stars there is only a hundredth of a light year; in our neighborhood it is 3 or 4 light years.

Larry Niven has constructed a detailed future history, much of which turns on a short story, "At the Core." In that story his hero finds that the galactic core has become

a chain reaction of supernovas; a wave of high energy particles is blowing out of the galaxy center and will destroy all life in the galaxy. Consequently, a race of Niven's aliens decide to quit the galaxy entirely, even though the radiation would not reach them for 20,000 years.

This seems more than a little unlikely. A cluster of dense stars will not make a chain reaction. Energy from one supernova will indeed strike other stars, but our present knowledge of stellar structure (which is quite complete) shows that this added energy would take a very long time to affect changes in the neighboring stars. Not only that, a lot of the supernova energy would be captured by the gas between the stars. And even if such a chain reaction could occur, a star far out from the core (like ours) would be only slightly perturbed by the wave of radiation that poured out. It's a long way to the galaxy center, and the supernova energy density would drop off as the square of the distance away. It turns out that Earth's atmosphere would be able to shield us from most of the high energy particles, and the most we could expect would be some unusual weather.

There would be more than one way to discover if such a big bang were brewing at the core. The most interesting is by gravitational radiation.

Men have never seen or felt gravity waves. They are a theoretical construct, a by-product of Einstein's general relativity theory. When immense masses move they can stress the shape of space itself about them, and the disturbance will travel outward like ripples on a pond.

Supernovas are huge events; they involve the disruption of masses as big as our sun, or bigger, so they send out gravity waves.

In 1968 George Weber at the University of Maryland finished building the first gravity wave detector. He began taking

data from large drums that would move only a millionth of an inch as gravity waves passed through them. He picked up signals about once a week. Speculations flew; what could they represent?

Up to that point the gravity wave detectors had not been able to tell from what direction the waves came. Weber built better ones and scanned the sky with them. He found that the waves seem to be coming from the center of our galaxy.

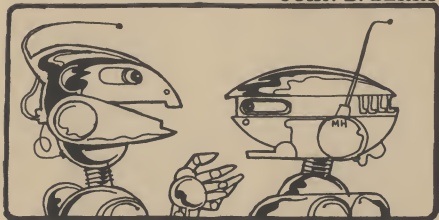
Does this mean that behind those vast dust clouds one star a week is going supernova, and the core of our galaxy is exploding outward toward us? Perhaps, but not necessarily. There are other explanations.

Sometimes when a star collapses it blows off most of its material in a shell, leaving a dense core. If conditions are right this core will collapse further and literally deform the shape of space around it. This is a "Schwarzschild object"—a star which has so intense a gravitational field that the light it emits can't escape. It is so compact that a mass equal to that of our sun would correspond to an object a couple of miles across. An outside observer, watching such a star form, would see a burst of reddening light and then—nothing. The star no longer gives off light, so it is totally black. It can be seen against a background of stars, because it will block some of their light and distort the rest.

Just because it can't be seen doesn't mean it is any less real. Other masses can fall into it. Each added mass inside the boundaries of a Schwarzschild object adds to the gravitational field outside.

At the galaxy center stars are densely packed. It is easy to imagine that if one Schwarzschild object formed and then collided with a nearby star, the "hole in space" would grow in a chain reaction. The "hole" can get indefinitely large; ordinary

(CONTINUED ON PAGE 127)



## \* THE CLUBHOUSE

THE ESSENCE #2, Spring, 1970; 50¢ or 2/\$1; three or four times a year, from Jay Zaremba, 21000 Covello St., Canoga Park, Calif. 91303; 44 pp., offset.

Quite a few new faneditors are having their fanzines printed offset or multilith these days; very few have succeeded in producing as attractive a package as THE ESSENCE. This is no clumsily-laid-out, messily-typed crudzine with ill-matched paste-ups and a generally scruffy air. This fanzine is beautiful.

Behind slick covers with a wrap-around "airships" painting by Vaughn Bode lies the dream of a graphics editor realized. Zaremba is admittedly most interested in the appearance of his fanzine, so THE ESSENCE is a half-sized melange of two-column text and lovely layout using large black and white spaces; attractive artwork, both cartoon and "straight," by Bill Rotsler, Steve Fabian, Tim Kirk, James Shull, and other well-known fan artists; and the very subtle use of color in headings, filler illustrations, and parallel columns of text.

The fanzine has *style*; it's a joy to behold.

And, unlike some of the fanzines that have been produced by art-oriented editors, THE ESSENCE is readable, too. The contents of this issue revolve entirely around reviewing. Andy Offutt writes in his usual chatty, iconoclastic way about an article in the first issue by Jim Shull on art and the artist in science fiction and, more precisely, the question of "reviewing" artwork. Offutt takes a good crack at one of my own prime complaints about many critics: that they are more interested in scoring points and phrasing their criticism cutely than in doing a fair, competent job. But he is by no means immune to this malady himself; his style abounds in gratuitous insults and flippant attacks. Granted that one of these was deliberate, as he points out later in the article, but take the following example on the same page:

"How easy it is to say 'The new book by Richard Geis (rhymes with scheiss) . . .' or 'Norman Spinrad says "if you think BJB is good, wait until you see my next one." This

reviewer can wait.' and 'Phil Dick misnamed his new book, *The Pothealers*. It doesn't heal, it boils . . .'

"And oh my gracious aren't those cute, delightful, making you laugh, like a dwarf making fun of Samson blind, chained, and gagged. And so artists are, whether word-artists or ink-artists or paint-artists . . .

"(Please: I picked out Geis because I like him, BJB because it's obviously brilliant and I'm just one more who's nominating it, and Dick's *The Pothealers* because it could be punned—solely. Dick don't write no bad books. But he can certainly get himself insulted and chopped by midgets in a miserable rag such as BEABOHEMA.)"

I would say that Offutt fell into his own trap.

Offutt also says that the best way to write criticism is to say something that may be of help to the artist. His examples are all of the "this is pretty good, but here's how it might be better" school. The only trouble with this is: what if the work isn't pretty good to begin with? What if it's utter crap? Or doesn't Offutt acknowledge that possibility?

With Offutt's remarks in mind, we go on to a review of James Blish's *Black Easter* by Robert E. Toomey, Jr. I thought *Black Easter* was nicely-constructed but basically lacking in any guts, and Toomey disagreed and put his case well enough that I'm willing to reconsider the book, even though I still disagree. That's a good compliment for a reviewer.

The big item in this issue is Richard Delap's extensive review of all the prozines for the first few months of 1969. I don't know why the reviews are so dated, but there's a "To Be Continued" at the end, so perhaps the next issue will bring them up to date. Delap is a highly-admired reviewer, whose work I have always felt was mediocre. Certainly he writes with verve, but whenever I read his review of

something I'm familiar with, it seems that he's missed the central point. At the very least, his taste and mine differ widely. But if you find that you agree with him most of the time, and if you are interested enough to read 17 pages of prozine reviews, I'm forced to recommend this article to you.

Zaremba has done a good job of editing the lettercolumn, except for his own comments. There's no need to print *everybody's* remarks about how he shouldn't have printed a color illustration over text in his first issue, and then comment on each one. Once would have been enough. His editorial is well-enough written, although it commits what is traditionally a faneditor's Cardinal Sin: talking about why the issue was late. This is the most tempting of all subjects, and the one that should be avoided most diligently. But these are mistakes that I'm sure he'll quickly learn to correct.

The last item in this issue is a folio of art by Mike Gilbert. I'm particularly pleased to see this, because it shatters my criticism in an earlier *Club House* that Gilbert seemed capable only of drawing similar things over and over again. All of the drawings in this short folio are different and beautifully executed.

As long as Jay Zaremba can get contributors of the quality of his graphics, *THE ESSENCE* is going to be a good fanzine. *Recommended*.

ENERGUMEN #2, May, 1970; 50¢; irregular, from Mike Glicksohn, 35 Willard St., Ottawa 1, Ontario, CANADA; 54 pp., mimeographed.

One of the joys of writing this column is reading a fanzine that I hadn't paid much attention to when it arrived and discovering that it is good. *ENERGUMEN* is one of those. I knew there was a small mass of young fans in Ontario who were trying to re-establish a real Canadian fandom, but

until now most of their efforts hadn't impressed me much. This fanzine changed my opinion; it's literate from cover to cover, pleasing to the eye, and full enough of thought-provoking material to make my fingers itch to write a letter of comment.

I would call **ENERGUMEN** an intellectual fanzine, despite the absurdity of making such a distinction in what is essentially an intellectual hobby. Most of the people involved in writing and producing the zine seem to be students or teachers, so it's not surprising to see a long column on sf poetry by Susan Wood, an explanation by Charles Haines of his contention that there are only four major myths in modern Western civilization, and an article "In Praise of Sauron" by John Baglow that manages to ring in William Blake and Sigmund Freud and still sound reasonable. The most startling fact about all three of these pieces is that they tackle rather weighty, serious subjects, yet they succeed in making sense and being entertaining so well that you never feel as though you're reading a musty old scholarly study out of **RIVERSIDE QUARTERLY**. Add in a short, but well-written piece entitled "J.G. Ballard Viewed as a Cross-Country Chandelier Race Between a Spider and a Fly" and several readable poems, and you have a fanzine with some real intellectual meat. **ENERGUMEN**'s writers seem to specialize in taking something you would expect to be dull and making it fascinating.

Not all of the issue is even intellectual. "The Kumquat May," a column by Rosemary Ullyot, is a standard example of the chatty fan column, talking about amusing happenings on two long trips by several Canadian fans to conventions in Boston and New York. I expected it to be on the level of Charlie Brown writing on auto accidents in **LOCUS**; I was wrong. "The

Kumquat May" is not exactly brilliant writing, but it is entertaining, not boring, and in a couple of places Rosemary had me laughing.

Glicksohn's editorial is also well-written and shows a good sense of how far to go before something amusing becomes dull. The lettercolumn features interesting people and dumb people, but it's put together with an eye to producing a very pleasing whole. I'm tempted to exclaim at what high-quality letters Glicksohn got, but on second glance I think it's just an ordinary batch of letters that were edited well.

**ENERGUMEN** is very neatly typed and mimeographed and profusely illustrated. Editor Glicksohn says that he came into fandom recently enough that he is used to highly attractive fanzines and expects them, so his own fanzine features artwork on virtually every page, all electronically stenciled. By far the most profuse illustrator is Alicia Austin, a fairly new Canadian artist whose work is predominantly in an art nouveau vein, but who branches out to draw just about anything, including a lovely set of stylized-realistic cartoons illustrating Rosemary Ullyot's column. Alicia Austin is one of **ENERGUMEN**'s brightest points.

On the whole **ENERGUMEN** is a solid, meaty fanzine that should be well worth getting. *Recommended.*

#### *Other Fanzines:*

The fanzines marked with an asterisk (\*) are especially recommended.

**EGG** #1, Jan., 1970; 1/-, future issues 2/- or 25¢ (5/\$1); irregular, from Peter Roberts, 87 West Town Lane, Bristol BS4 5DZ, ENGLAND; 22 pp., mimeographed.

\***CROSSROADS** #8, April, 1970; 25¢ or 12/\$3; monthly or bimonthly, from Al Snider, 1021 Donna Beth, West Covina, Calif., 91790; 36 pp., mimeographed. Published by the Brown Univ. SF Union.

HOSTIGOS #1, Mar., 1970; no price listed; irregular, from Lee Amoroso, P.S.S.F.S., HUB Desk, University Park, Pa., 16802; 52 pp., multilith. Published by the Penn State SF Society.

INTERPLANETARY CORN CHIPS #3, April, 1970; 40¢ or \$1.50 per year; quarterly, from James E. McLeod, Jr., and Dale A. Goble, Jr., 7909 Glen Tree Dr., Citrus Heights, Calif., 95610; 34 pp., mimeographed.

STAN'S WEEKLY EXPRESS #29, Mar. 29, 1970; 25¢, 4/\$1, 13/\$2.50, 26/\$4; weekly, from Stan (no last name mentioned), 4324 St. Johns Ave., Dayton, Ohio, 45406; 8 legal length pp., mimeographed. Composed entirely of ads for fantasy-related materials for sale or wanted by collectors.

\*FOCAL POINT Vol. 2, #3-5, April & May, 1970; 6/\$1; biweekly, from Arnie Katz, Apt. 3-J, 55 Pineapple St., Brooklyn, NY, 11201 and Rich Brown, Apt. D-4, 410-61st St., Brooklyn, NY, 11220; 10, 10 & 12 pp., respectively, mimeographed. Excellent fan newszine, with meaty non-news material as well.

ERB-DOM #34, May, 1970; \$2.50 per year; monthly, from C.E. "Caz" Cazedessus, Jr., P.O. Box 550, Evergreen, Colo., 80439; 44 pp., multilith. The most prominent journal of Edgar Rice Burroughs fandom.

PRISM #3, Feb.-Mar.-Apr., 1970; 20¢; bimonthly, from Gary S. Mattingly, 7529 Grandview Lane, Overland Park, Kan., 66204; 40 pp., mimeographed.

\*LOCUS #51-4, April & May, 1970; 10/\$2, 20/\$4; biweekly, from Charlie Brown, 2078 Anthony Ave., Bronx, NY, 10457; 8, 12, 8, & 10 pp., respectively, mimeographed. The most well-known newszine.

ASH-WING #5, Spring, 1970; no price listed; irregular, from Frank Denton, 14654

8th Ave. SW., Seattle, Wash., 98166; 42 pp., mimeographed.

\*SCIENCE FICTION REVIEW #37, April, 1970; 50¢; eight times a year, from Richard E. Geis, P.O. Box 3116, Santa Monica, Calif., 90403; 56 pp., mimeographed. Considered a leading fanzine, although I think it's over-rated.

PgHLANGE ART PORTFOLIO, Mar., 1970; \$2.50; non-periodical, from Linda Bushyager, 5620 Darlington Rd., Pittsburgh, Pa., 15217; 43 pp., multilith.

APRIL 1970 LIST, April, 1970; free; irregular, from Howard Rogofsky, P.O. Box 1102, Linden Hill Station, Flushing, NY, 11354; 16 pp., multilith. A list of comics and other items for sale.

DALLASCON BULLETIN #5, April, 1970; free; quarterly, from Tom Reamy, P.O. Box 523, Richardson, Tex., 75080; 40 pp., offset. Promoting the DALLAS IN '73 bid for the world convention.

\*WINNIE #45-6, May, 1970; 6/\$1 or \$4 per year; biweekly, from Michael Ward, Box 41, Menlo Park, Calif., 94025; 4 pp. each, offset. A West Coast newszine.

MICROCOSM #6, May, 1970; 20¢ or \$1.50 per year; monthly, from David Burton, 5422 Kenyon Dr., Indianapolis, Ind., 46226; 4 pp., mimeographed.

ISFANEWS #7-8, April & May, 1970; 25¢ or \$1 per year (ISFA dues); monthly, from David M. Gorman, 5647 Culver St., Indianapolis, Ind., 46226; 10 & 18 pp., respectively, mimeographed. Published by the Indiana Science Fantasy Association.

CRABAPPLE #9, Spring, 1970; 1/-; irregular, from Mary Reed, 5 Park Close, Longmeadow, Stevenage, Herts., ENGLAND; 32 pp., mimeographed.

STAGE ONE, Spring, 1970; \$1 first copy, 50¢ each additional copy; irregular, from University of British Columbia SF Society, Box 75, Student Union Building, Univ. of B.C., Vancouver 8, B.C. CANADA; 58 pp.,

spirit duplicated.

OSFAN Vol. 2, #6; 15¢, \$1 for 6 months, or \$1.75 per year; monthly, from Douglas O. Clark, 6216 Famous Ave., St. Louis, Mo., 63139; 24 pp., mimeographed. Published by the Ozark SF Association.

\*SANDWORM #9, Spring, 1970; 50¢; irregular, from Bob Vardeman, P.O. Box 11352, Albuquerque, NM, 87112; 22 pp., mimeographed.

MAYBE #4, Apr.-May, 1970; 75¢; bimonthly, from Irvin Koch, Apt. 45, 614 Hill Ave. SW., Knoxville, Tenn., 37902; 48 pp., mimeographed.

STATIC, FLUTTER AND POP #1,

Spring, 1970; 24¢ in stamps only; irregular, from Meade Frierson III, 3705 Woodvale Rd., Birmingham, Ala., 35223; 24 pp., multilith. Devoted to old radio plays.

NOLAZINE #10, Spring, 1970; 50¢ or 3/\$1; irregular, from Rick Norwood, 5169 Wilton, Apt. D., New Orleans, La., 70122; 56 pp., mimeographed.

—John D. Berry

*Fanzines for review should be sent directly to John D. Berry, 35 Dusenberry Rd., Bronxville, N.Y., 10708*

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(CONTINUED FROM PAGE 83)

and let us face the facts here, it is still a lousy issue of *ASTOUNDING*, chock full of bad stories and too much extraneous material, as thorough a disappointment now as it was to me 18 years ago when I plucked it from a pile of back issues in Steven's Book Service and paid 50¢ for this rare issue.

After a time, I shut off the light and go to sleep. I sleep badly and with much interior

aching and groans. In the morning, my temperature is a hundred and my throat is sore. My wife says I must have caught it from her. I phone the doctor for medicine and sit down to write this article, telling myself that as soon as I have finished it, I will have a beer and go to sleep. Unquestionably, I am full of bad charge.

—Barry N. Malzberg

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(CONTINUED FROM PAGE 122)

stars tend to blow off excess matter if they grow beyond a certain point.

When a star falls into a Schwarzschild object it moves very rapidly in the object's strong gravitational field. This produces a burst of gravitational radiation.

Weber is finding one gravitational "event" every week. Are these the pulses of stars falling into Schwarzschild objects—or perhaps just one object? It might be that the center of our galaxy is not exploding, but rather, *imploding*: all the stars there are being sucked into a quickly-growing

Schwarzschild object.

But so what? A Schwarzschild object won't throw out debris. In fact, any event at the core is so far away it could never seriously threaten humanity.

The really big events can't hurt us—it's the ones close to home that matter. Men have more reason to fear disaster from tornadoes and other men than from supernovas—and probably always will.

—Greg Benford  
& David Book

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### DR. AUDREY KARGERER

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a "Soldier of Peace" and received from the Pope a Medal, the Martyrdom of Peter. She is only one of four people to have been so honored.

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CFC's hospitality suite, any number of fans stopped to pick up and leaf through the new magazines, and I met or renewed acquaintances with many of those whose letters have recently appeared here.

The response to our "new look" was uniformly enthusiastic (we're now in the process of designing a new logotype for FANTASTIC as well), but over and over again I encountered disbelief when, in reply to the same question, I said that sales had thus far not reflected the changes and improvements in the magazines. Since I devoted the editorial in last month's FANTASTIC to this problem, I won't go into it again here, except to note that we seem to have been the victims of bad timing: at about the time we switched our policies and raised our price to 60¢, the so-called "Nixon Inflationary Recession" began to make itself felt. Magazine sales, book sales and comic-book sales are sagging, right across the board. Dennis O'Neil, who reviews books for us, tells me that the comics industry—traditionally one of the most profitable forms of publishing—is feeling the squeeze badly. Reports from friends in the paperback houses are equally bleak. Sales are off.

"What can I do to help?" was the next most asked question. I tried to answer that question as well, in the October FANTASTIC, but there really is not too much that you and I, as individuals, can do. Certainly the most obvious answer is to show the magazines to your friends, and help find us new readers. If each of you did that, our sales would double. But I realize that this is more easily suggested than acted upon. Still, it was heartening to hear the same enthusiastic response from so many of you at the Midwescon, and to realize the extent of your interest in the survival of this magazine.

Flying back from Cincinnati I had an opportunity to observe the actual state of national air pollution over the eastern third of the country, and I was appalled.

It was a bright, sunny day in Cincinnati, and from the ground the air seemed clear. But as our plane climbed a steep angle into the sky, the deceptiveness of the "clear air" was obvious. A thick haze totally obscured the horizon and made viewing in any direction but straight down quite difficult. There were few clouds in that area, but a ubiquitous blueish haze blurred the air until we had climbed over twenty thousand feet up; then it appeared a dirty blanket of pollution below us.

Normally I don't fly. Not because I dislike flying—I don't; I love it—but because I prefer to drive through the scenic countryside rather than zipping over it several miles up. But flying is increasingly common in this country, and it surprises me that anyone who *does* do much flying would not take note of this phenomenon.

Several years ago a man who does a lot of private flying told me that it was impossible to find clean air anywhere along the eastern seaboard; that even on a "clear" day the visibility was poor. He flew out of northern Virginia, over the southern Appalachian mountain chain, where pollution from industry and cities would not be expected to reach. And yet the air was blue above the Blue Ridges—thick blue.

To me this phenomenon of wholesale regional air pollution is a far more frightening one than that of localized pollution, like the smogs of Los Angeles and greater New York. Because it suggests that simply leaving the city is no solution: you will not necessarily find fresher air in the countryside than in the concrete jungle you've left behind. And it also indicates the sheer *extent* of the way in which we have polluted our environment.

Science fiction has been talking about pollution and ecological balances for many years now: I'm sure that most of you were well aware of the dangers before the newsweeklies burst out with cover stories on the subject. So I don't propose to lecture you about environmental pollution. I am going to take it for granted that this would be redundant and unnecessary.

Nevertheless, the problem is with us. It's an immediate one, and a growing one. It is a direct result of our technological growth—an unchecked, irresponsible growth which began in England well over a hundred years ago, when the amount of filth in a city's skies was an index to its productivity and wealth.

Now the alarmists are damning technology and all but suggesting that we turn our backs on the developments of the last century. They are superficially plausible in their arguments—especially so when they state that our demand for *usable power* lies at the root of most of our environmental pollution. (It would appear that *any* means of generating electricity—dams, steam power, tidal power, or atomic power—alters our environment to a greater or lesser extent.) However, it is unlikely that anything short of a holocaust will force us to turn our backs on the technology we've acquired.

And for good reason. One hundred years ago a case of appendicitis meant certain, painful death. One hundred years ago, one child out of four died in infancy or early childhood—in this country. The rate was higher elsewhere. Even fifty years ago, life was a far less certain guarantee.

Ben Franklin invented an electric motor two hundred years ago. But it remained a curiosity—he used it to drive a roasting spit—because the technology of the day was not equal to the discovery. Yet, even then men had a drive towards the realization of

technological advances. Despite our notion that the "horse and buggy days" were static, unchanging, and bucolically secure, "progress" in a technological sense has never stood still, and it was inevitable that mankind would ultimately reach the crossroads at which he today stands.

Technology is a tool. It can be used in any fashion we wish. The problem lies not with our tools, but with us. We are a selfish, short-sighted race, and we place far more weight on immediate, short-term gains than we do on long-range effects. Thus it is not surprising that our power industry, our automobile industry and our agricultural industry are more concerned with short-term profits than with efforts to preserve the human race—as well as their own places in our society.

Properly speaking, science fiction does not deal with today, but with tomorrow. However, implicit in that tomorrow is the way in which today's problems were dealt with. One of the movements in science fiction which has been tagged "new wave" (an increasingly polyglot, if not meaningless term) is that which demands "social relevance" in sf. By that, apparently, the advocates of this form of sf want stories which suggest, reflect, or offer outright solutions to our problems of today. What the form has produced, for the most part, are stories which simply acknowledge or reflect—often fatalistically—these present-day problems. Answers being in short supply, and sf writers having little advantage over genuine social scientists in this area, few stories have offered realistic solutions short of the most extreme: wiping the slate clean. I notice an increasing number of stories set in post-chaos times, following the presumption that little can be done now but to pick up the pieces when it's all over and done with.

Yet if sf writers have not always grappled

head-on with the problems of racial tension, environmental pollution, overpopulation, and individual alienation, more and more they are acknowledging them in the implicit structure of their stories.

Take, for example, the stories in this issue. All deal at least implicitly with problems we face today. They do not explicitly center on these problems, but the background tapestry is woven of these various threads.

This is because a writer is a product of his time, and his stories cannot help reflecting his basic assumptions about the world in which he lives. And even as each writer weaves these assumptions into his stories, we, as readers, weave our own into the reading of those stories. This is never more obvious than when one reads a story written in an earlier era—as with our classic stories.

I'm rather proud of this issue's lineup, for although this grouping of authors and stories is to some extent coincidental, it makes a good cross-section as well.

Bob Shaw is known throughout the sf community for his 1966 story, "Light of Other Days," but fandom remembers him if anything more fondly as a major member of the Irish fandom of the fifties. Along with fellow Belfasters James White and Walt Willis, he helped create one of the most brilliantly witty gestalts sf fandom has ever known. The three began with the production of Willis' *SLANT*, a fanzine whose rare distinction was the republication of many of its stories in professional print. They continued with *HYPHEN*—again under Willis' editorship—a fanzine which brought the art of the informal essay to its fannish peak. I don't believe I exaggerate in comparing its contents (produced in large measure by Shaw, Willis and White) favorably with those pieces by which *The New Yorker* magazine's early years are best remembered.

Each of the three had made a name for himself professionally, James White (no relation) first, and Bob Shaw more belatedly. (Willis' contribution was a major book about Ireland published under another name.) While many of its readers seemed most impressed by the "science" in "Light of Other Days"—the concept of "slow glass"—I was more impressed by the way in which Shaw interwove that concept with the marital problems of his protagonists, all within a very few words. It seems to me that this concern with real and immediate human problems has been the actual underlying theme in most of his stories, and it has become increasingly obvious with his novels that depth of characterisation is one of Shaw's strong suits. Anyone can come up with a clever gimmick, but it takes something more to relate it to human beings and their own intertwined relationships.

This time Shaw approaches immortality—from (again) a unique point of view. The implications of immortality and its byproducts upon so simple (but complex) a thing as a marriage are the threads from which this novel is woven. And "One Million Tomorrows" underscores Bob Shaw's importance as a writer in our field.

If Shaw has taken the slow and deliberate route through fandom and fanzine writing to professional science fiction, Gerard Conway has made a quantum leap, feet first. Still in his teens and with a couple of years of comics scripting under his belt (at an age when I was still producing second-rate fanzines . . . \*sigh\*), Gerry made his first sf sales to me with "Through the Dark Glass" and "Walk of the Midnight Demon" (the latter story will be in next month's *FANTASTIC*). Subsequently he has sold a novel to the Ace Science Fiction Specials line and I've purchased two more of his stories. I expect you'll be seeing a lot more of him, both here and elsewhere—soon. It's

(CONTINUED ON PAGE 136)



# ...Or So You Say

*Letters intended for publication should be typed, double-spaced, and addressed to Or So You Say, c/o P.O. Box 73, Brooklyn, N.Y., 11232.*

Dear Ted:

For the AMAZING letter column, two items:

Was fascinated by your notation in the new (September) AMAZING that Avram Davidson, upon his assumption of the *F&SF* editorship, rejected a story of his bought by the previous editor. My question: did he also return the money? (No, but he swapped another story, which he considered better, for it, the wordages being about even, as I recall. —TW)

You have done a superb job with these magazines since you succeeded me as editor in October of 1968. I have followed your progress with sympathy, involvement and respect for some time now but only wanted to give you this statement for publication when I was incontestably assured that the magazines had not only been revived but

made valuable. They are. All credit to you.

Barry N. Malzberg  
New York, N.Y., 10024

*Inasmuch as we have not always agreed on some issues, Barry, I accept and appreciate your statement as a considerable compliment. —TW*

Dear Ted,

Your editorial on Dr. Wertham's investigation of fandom confirms a suspicion I've had—ever since last December, when the good doctor sent Advent \$7.50 for a copy of Warner's *All Our Yesterdays*. I couldn't really believe he was a fan, so it was natural to suspect his interest in fandom was clinical. Well, I wish him joy of it—no doubt in due time he will turn out another book, presumably to be called *Seduction of the Guilty*.

George W. Price  
Advent: Publishers  
P.O. Box 9228

Chicago, Illinois, 60690

P.S.: His first name is Fredric, not Frederic

as you have it in AMAZING.

*My error in copying the spelling of his name from LOCUS without checking it elsewhere—as LOCUS' Charlie Brown also pointed out to me. —TW*

Dear Mr. White,

I have been meaning for months to write you, to thank you for your reviews of my books in AMAZING. They were absolutely groovy.

About the *Wizard of Earthsea* and marking books as "juvenile" or with a "suggested age group," your remarks are perceptive and I largely agree with them. But there are some reasons for putting a lower age limit on the book's jacket, and one of them applies to *Wizard*. Parnassus Press publishes only juveniles. They put "11-up" on the jacket so that buyers and librarians (most hardback kids' books sell to libraries) would know *which size kid* to give/lend it to. "Eleven-up" implies *on up*, I think; the only warning implied is, "Your five-year-old nephew will *not* like this book yet, even though it's from a firm that mostly does picture-books."

I asked Terry Carr at Ace if their cover will say anything about the book's having been written primarily for teen-agers. He said no, and I expect he's quite right. My only worry is that this seems to pass the book off as an adult one; and indeed I know a good many adults (including you, hurray!) who have enjoyed it; but I know others, who like my sf books, who can't take it at all. One does write differently for kids. Not more simply—nothing like that at all. Anybody who writes down to kids ought to be hanged on the nearest Jungle Gym. What I found in writing *Wizard*, my first book for older children, is that a terrible honesty is required of the writer. Things have got to cut right down to the bone—no

frills. No fancy tricks with language, no juggling around with morality. And this is not because I am a woman and want to protect the little dears, no; it's because I jolly well know the little dears will see through anything fake about five times faster than the grown-ups . . . So, one does write differently for young people; and in this sense, to mention the fact on the cover seems the most honest course.

But you and Terry are perfectly correct in saying that a lot of adults won't even look at a book marked "juvenile." As you remarked, that's their loss; they won't have read Garner's *Owl Service*, or Treece's *Dream Time*, or even *The Hobbit*—the poor sods!

I'm sorry you had trouble finding the book. Parnassus is a small firm, a husband and wife indeed—Ruth Robbins is the wife—and so far as I know they are the only professional book-publishers west of the Mississippi. I was delighted when they asked me for a book, as all Parnassus books are magnificently produced, and because they are what they are—a totally independent, Western firm. I think New York's hegemony of publishing is deplorable and destructive; this is much too big a country to have a single cultural capital—and New York is a pretty crummy one compared to London or Paris anyhow. New York is just as parochial as Keokuk in many ways: only bigger. Anyhow, I was very glad to have them do my book, though I knew their distribution outside California was not very good. I think one can order from the publisher; the address is Parnassus Press, 2422 Ashby Avenue, Berkeley, California.

Ursula K. Le Guin

Portland, Oregon, 97210

*I suspect that those adults who didn't care for Wizard were more put off by the fact that it is a fantasy and thus nominally unlike*

*your sf books) than its apparent juvenile status. And I think, upon reflection, that you are quite right about the differences between a good juvenile and a work of adult fiction. If you are right, then obviously we should all write nothing but juveniles—thus adhering to higher standards of plotting and prose. —TW*

Dear Editor . . .

. . . it's funny, but about two or three months ago I wrote a letter to *ANALOG* and *IF*, where I wrote that I didn't like your magazines at all.

And now . . .

I read *AMAZING* and *FANTASTIC* now about a year and I have a few old ones I got here still and I must say (to be honest with you) I didn't like the old ones. Also the first issues under you, Mr. White, weren't good at all, but a little bit better. But after those your improvements went "up, up and away." (Thanks for that.)

And now I think, your magazines are the most sophisticated ones between all those others *IF*, *GALAXY*, *ANALOG* . . .). And after all, of course, the illustrations. First thing, the old covers I knew all, because of all the German sf publications (*PERRY RHODAN*). I'm German, myself, and got at last the chance to get all those American magazines here in South Africa. That's the reason, too, that you must excuse my bad English; one year is not a long time, to learn a language . . .

Of the interior illustrations, Jeff Jones' were great, not all, I must say, but the most. And the new talent—Michael Kaluta—is very, very good, also Michael Hinge.

I didn't like the end of your novel, "By Furies Possessed." The end is also a sign of the new thing in sf. A few years before, the main figure (Dameron) would have fought against the "parasite", but in the now-time you couldn't do it, of course, and I

understand it. Otherwise, the novel was good, I don't like the word great, are there other ones? (*I don't write the contents page. —TW*) The end you knew already after finishing the first part, only because of the new image in sf—but, the old way isn't better, is it?

Gorm O'Ultimann

13 Delmenhorster Weg

D 45 Osnabruck, W. Germany

(back in August)

*While it is true that I was deliberately turning an old plot inside-out, I don't regard the ending of "By Furies Possessed" to be a requirement of any "new thing," or "new image." It fit the novel—was, indeed, the point of the novel. —TW*

Dear Mr. White:

I have just finished the July *AMAZING* and frankly, I am disappointed. After reading the great June *FANTASTIC*, I was expecting something that was at least equal to it, if not better. But alas, this issue was only fair, not being as good as it should have been.

Of the two new stories in it that I've read (I'm saving "Orn" till I finish *Omnivore*), Bob Shaw's "Invasion of Privacy" was the better one, though not up to par with his "Communication" in *FANTASTIC*. Likewise, the Silverberg story, though not badly written, didn't quite come off, the characters being too unreal, nothing you could identify with.

A word on your new covers. I am glad you are having them done by American artists again because on the rare occasions that I see someone at the newsstands browsing through the sf mags, he always turns first to the *IFs* and *GALAXYs*, on account of the Gaughan covers, while barely glancing at the *AMAZINGs* or *FANTASTICs*. He probably thinks that what's bad on the outside is bad on the inside, too.

What happened to the book reviews? Did you run out of room, is it to be always like this, or will they be back next issue? Next to the editorials they are your best features. (As you've already noticed, *The Future in Books* was absent only one issue. —TW)

As to your editorial, thanks for clearing several questions. Upon first reading *Seduction of the Innocent* a year ago (not having heard anything about its history or its author), I came away with the feeling that Dr. Wertham was either grossly misinformed—being ignorant and knowing no better—or he was one of those people who twist the facts to fit a preformed theory instead of fitting the theory to the facts.

One point. About in your editorial where you mentioned the dirty picture in a man's biceps. Well, I've gone through the book again just now and I fail to find either the picture or any mention of it.

Allan Yee

9328 Ottewell Rd.

Edmonton, Alberta, Canada

*It's been almost fifteen years since I read or had a copy of the book, Allan, but that picture stands out vividly in my memory. Either it's been removed from later editions of the book, or I'm confusing it with one of Dr. Wertham's magazine articles of the same period. Can anyone shed light on this?* —TW

Dear Ted:

I cannot help but wonder what would happen if, say, Dr. Wertham and John J. Pierce should join forces, for in essence their attitudes are the same. Both see a form of writing (or drawing, or whatever) they dislike, for their own reasons. Both have decided, for the good of the world as a whole, that everyone would be Better Off if these things did not exist. Both, apparently, have set out to make this a reality. Pierce, however, has so far proved merely

annoying; the majority of fans, rather than embracing his aims, have either laughed at or ignored him altogether. Wertham, however, has influence far beyond fandom, and I fear the results of his "investigation." What can we do to prevent the rape of the fanzine?

Jerry Lapidus

54 Clearview Drive

Pittsford, N.Y., 14534

*What, indeed?* —TW

Dear Ted:

As I read AMAZING STORIES' reprinted stories in separate magazine form (like SPACE ADVENTURES, S-F GREATS, etc.), I begin to wonder what has happened to those people who have written these classics, good writers like Manly Wellman and Don Wilcox and John Jakes.

I also wonder why you have so many story reprint magazines. Isn't it expensive to pay for all this paper? I mean, with your low budget and all.

Wouldn't it save paper costs and printing costs if you prints just two reprints magazines? The titles could be AMAZING CLASSIC STORIES and FANTASTIC VINTAGE ADVENTURES or vice-versa.

David Shank

30 East Laurel St.

Lawrence, Mass., 01843

*Wellman authored a long series of stories for F&SF in the fifties; Jakes had a new story in our January issue. I don't know what has become of Wilcox. As for the reprint titles, the sad facts are these: the reprint magazines are presently selling within a few thousand copies of AMAZING and FANTASTIC—while operating on a vastly lower budget. They are, basically, subsidizing this magazine. Under the circumstances, to cut back on them would hurt AMAZING and FANTASTIC.* —TW

Dear Sir:

I am writing this in reference to your editorial in the July issue of your much improved AMAZING. It is certainly a giant step in quality over the stuff printed in the years '66-to when you took over. I think that the Wertham issue is academic. Many people in fandom blanch at the name of the man who caused the destruction of comix, right and left. I believe however that this is unjustified. I would venture to say that many people will try to respond logically and intelligently to Dr. Wertham's requests. In a latter edition of LOCUS, the editor reported that he received a number of intelligent and not so intelligent letters from the Good Doctor Wertham. Perhaps if fans like you and me and others act intelligently, then Dr. Wertham will act more favorably for our "cause". To quote W.C. Fields, "The time has come . . . to take the bull by the tail and face the situation." We should do the same to Wertham.

The stories seem to be quite interesting. I am now a Piers Anthony fan—after reading "Hasan" in FANTASTIC, and *Macroscopic*. How's about having more of this man's works in the near future? (*Piers?* —TW)

As to J.J. Pierce, I must say that I agree *in principle* with much of what he says. I am gratified to know (from reading a recent SCIENCE FICTION REVIEW and a letter from a supporter of Pierce in the current issue of AMAZING) that Mr. Pierce objects

only to ways of writing that were in vogue at the turn of the century, and are being utilized by New Wavers today. I do object to this idea of Pierce's that anything he does not like is bad. New Wave writing will not corrupt one's precious bodily fluids at all—and neither will Old Wave works. Can't there be some happy medium where all types of sf—new and old waves—are accepted? (*Yes. Here.* —TW)

Edward J. Krieg  
510 North Chapelgate Lane  
Baltimore, Md., 21229

Due to time and space requirements, that concludes the letters for this issue. I'd like to call your attention to the request at the head of this column that your letters be *typed, double-spaced*, if at all possible. (If you type your letters anyway, *please* double-space the lines.) Up to now I have retyped every letter for this and FANTASTIC's letter column—often over twenty-pages worth. This badly cuts into the time I require for the other tasks of editing these magazines, as well as my own writing time, and on this occasion the time simply isn't available. If you will double-space your letters, I can use them directly in that form and the savings in time and effort on my part will allow me to publish more letters, giving you all a better opportunity to be heard. That should make us both happier.

—Ted White

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(CONTINUED FROM PAGE 131)

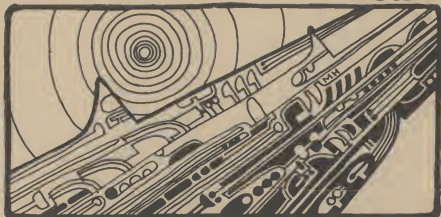
people like Gerry who make me feel tired and old.

It remains to be said that "A Time to Teach, A Time to Learn" is probably Noel Loomis' last story. A very different sort of story than he was used to write in his rip-roaring pulp-writing days, I suspect that it is in large part autobiographical—inasmuch as

a story projected somewhat into the future can be. It reflects his continuing interest in American history and the changing contexts of the educative process, and hints at a maturity of writing he did not live to exploit further.

—Ted White





## FUTURE in BOOKS

Hal Clement: *ICEWORLD*. Lancer Books 75128, New York, 1970, 221 pp., paper, 95¢.

The original serialization of this novel appeared in *ASTOUNDING SCIENCE FICTION* in 1951 . . . when I was thirteen. As a matter of fact, it began in the second issue of *ASTOUNDING* I bought from the newsstand, the same month in which Robert Heinlein's "The Puppet Masters" began serialization in *GALAXY*. At the time I found the scientific concept that underlay *Iceworld* utterly fascinating—protagonists from a world far hotter than ours, who breathed vaporized sulfur, and found our Earth to be deadly cold—but my youthful mind found the going hard and for several years thereafter I avoided Clement's other stories as "difficult."

Nonetheless in later years I read his other books, like *Needle* and *Mission of Gravity*, enjoyed them for their particular virtues, and let the thought simmer on the backburner of my mind that someday I would have to reread *Iceworld* and see what I

made of it.

Out of sight is often out of mind, and for reasons best known to the other publishers of sf books, *Iceworld* has been out of sight for an unconscionably long time. The copyright date on the flyleaf is 1953, which must signal its original book publication, the serialization having come two years earlier. There is no other publication data (which isn't rare in paperbacks these days; paperback publishers are apparently jealous of their prerogatives and rarely admit prior publication) aside from the cover line, "Now! Available for the first time in paperback!" I recall no reason to dispute that statement (although the frequency with which some other publishers have misused it makes it automatically suspect, I'm afraid), and can only be grateful to Lancer for republishing it and jogging me into rereading it at last.

In many respects *Iceworld* is an anachronism in the 1970 world of science fiction. For openers, it is written on a level which I might be tempted to describe as

"juvenile," but for my memory of my own inability to cope with it as a young teenager. Not, I hasten to add, "juvenile" in a derogatory sense, but rather in the *category*. The plot is straight forward and uncomplicated by subtleties of characterization. Sex is irrelevant. The humans involved—the Wing family—are proto-Heinleinian in description. And the human viewpoint although shared among members of the Wing family is as often as not that of Roger, a teenaged boy, whom we meet first.

The novel is definitely "old wave," in both the best and worst senses of that phrase. In the better senses, it has that old feeling of excitement in the exploration of scientific problems—magnified and compounded by the fact that we follow an alien trying to unravel the secrets of *Earth's* chemistry. In the poorer sense, it must be admitted that the characterization (of all the characters, human and alien) is rudimentary, naive, and only a step above cardboard. (In this the book contrasts with modern examples of "new wave" characterization, most of which are rudimentary, cynical and only a step above cardboard.)

I confess that I am unable to find the elements which so baffled me when I read the novel the first time around. But possibly it was the one element of the writing with which I do quarrel which tripped me up. And that is this: Clement, at least when he wrote *Iceworld*, had not the vaguest notion of how to paragraph his dialogue.

The modern convention of dialogue paragraphing states that each time there is a new speaker, one begins a new paragraph; two people never speak in the same paragraph. Older forms (still used by writers like Georgette Heyer) often threw back-and-forth exchanges of dialogue into single paragraphs. Clement's paragraphing

confuses because although he *does* begin a new paragraph with each new speaker, he often throws that speaker's described reactions into the paragraph before, immediately following the speech of the previous speaker. Here's an example:

"All right, Dad, I'm sure," the girl replied in a slightly surprised tone. 'Do I have to?' Her father shrugged.

"You know best whether you want to carry this with you all the time. No, you don't have to, as far as I'm concerned. How have the two of you made out on the patrol schedule?' Roger took over the conversation, curling a little closer to his father's shoulder and using the map to illustrate his points.

"There are eight trails . . ." . . . p. 37.

Now to properly paragraph, "Her father shrugged" should lead the second paragraph instead of concluding the first: that's the dialogue with which that line belonged. And "Roger took over" should have begun a new paragraph to which "'There are eight trails'" was appended.

This may seem a minor quibble, but it is not. Since Clement never gives any of the Wing family any individual traits—they are, every last one, intelligent and sensible to a fault—it is more than commonly difficult to tell speakers apart except by the specifically appended statement of who is speaking. You cannot deduce the speaker from the dialogue except rarely, and then purely on the basis of the information conveyed.

As readers we have been conditioned to identify speakers in the fiction we read by certain bits of shorthand which we've absorbed subconsciously. The major bit is that when someone speaks, and someone is named immediately thereafter, they should be the same person.

Despite this occasional confusion of who is speaking to whom, I found *Iceworld* both fascinating and entertaining. The ostensible

problem which forms the plot is Sallman Ken's: planted among a group of drug runners, he must first solve—or make an attempt to solve—their own problems in getting the narcotic off Earth, and then solve his basic problem of identifying the narcotic and putting an end to their operation. This problem is compounded when he is himself exposed to and addicted to the narcotic. The drug? Tobacco. And, in light of recent revelations that nicotine actually has a narcotic and habit-forming effect upon the human brain, this aspect of the book takes on new significance. (Actually, little of the science in the book has been dated; the most noteworthy I noticed was the identification of Mars' surface as flat and bleak—we now know Mars has mountains higher than Earth's—and the "fact" that Mars' icecap is frozen water, when it would now appear to be frozen carbon dioxide.) In counterpoint we follow the Wing family, who have for thirty years been swapping cigarettes for platinum with the unseen aliens. Clement never makes the least attempt to grapple with the morality implied in this: the fact—the tragedy—that this family has unwittingly dealt in a highly dangerous narcotic which has been the ruin of every alien to encounter it.

But then, I said the characterization was "naive" and this is its worst side. Its best side is the moment of contact between huma and alien, and the obvious good will on both sides.

Much has been said about Clement's characterization of aliens in his novels. Basically it boils down to this: his aliens think, talk and act exactly like human analogues, with minor transpositions of bits of business to take into account physical dissimilarities. Not only do they behave like humans, for the most part they behave like the sort of humans we wish ourselves to

be—warm hearted, generous, loyal, decent people. Frankly, I find this not particularly convincing—especially so since I am nagged by the thought that Clement characterizes his aliens in this fashion because it is the only string to his bow; his humans are characterized in exactly the same way—but I accept it within the context of his stories because therein it works, and that is all that really matters.

In retrospect, then, I must say that placed beside Clement's other novels *Iceworld* is minor. It comes close to the beginning of Clement's career as an author of novels (only *Needle* precedes it), and has its share of the weaknesses one might expect of such a circumstance. It is still readable, however, and when one considers the sheer volume of unmitigated drek published every month by the various paperback houses, one can only pause and wonder at the long delay in *Iceworld's* paperback appearance.

One final note: The book was apparently not proofread, and the typographical errors abound. "Box" for "boy," "meeting" for "melting," etc., are to be found so often that on occasion the text is needlessly made more opaque.

—Ted White

Robert M. Philmus: *INTO THE UNKNOWN*. University of California Press, 1970, 174 + ix pages, \$6.95.

For decades science fiction was denied the status and respectability of upper-case-ell Literature and relegated by the academic community to the back of the critical bus along with comic books, Hollywood movies, and other excrecences of cultural *kitsch*. One of the results of this has been the evolution of a kind of do-it-yourself scholarship and criticism, as exemplified by the Day, Metcalf, Cole, MIT and other indexes, and the critical works of James Blish and Damon Knight.

But the academic community is finally catching up—actually it began to do so quite a while back, with Bailey's *Pilgrims Through Time and Space*—and scholarly/critical works on science fiction are nowadays far from the rarities they once were. *Into The Unknown* is a full-blown scholarly treatment of "the evolution of science fiction from Francis Godwin to H. G. Wells," written by an Assistant Professor of English at Loyola College in Montreal, replete with scholarly citations, *op. cit.* galore, and a style as convoluted and obscure and a vocabulary as jargon-ridden as one could possibly fear.

Let me quote to you the first two sentences in the author's preface:

Any approach to the study of a genre as heterogeneous as science fiction will necessarily be polemical. The most neutral access would seem to be by way of literary history, but one can not even write a history of science fiction without making assumptions about the nature of this type of fiction.

Let me give you two more sentences, these comprising the opening paragraph of Philmus' second chapter:

In the argument in my first chapter, I attempted to define science fiction essentially as a rhetorical strategy, and then to suggest where and how works assignable to the class of utopian (or antiutopian) or satiric fiction can and do partake of this strategy. I concluded, in the course of examining the partial coincidence of categories, that the fantasy based on some scientific, or pseudoscientific, hypothesis mythically displaces, and

interpretatively deforms, areas of historical reality.

I finish reading a sentence like that last one, a paragraph like many of Philmus', and I find myself pounding my temple with the heel of one hand, trying to get the glaze of out my eyes, and I go back and read it again trying to figure out what in the world the man *said*.

Well, after reading 174 + ix slumber-producing and grossly overpriced pages, I have concluded that Philmus says very little, at excessive length, obscurely, impressively, and barely (if at all) in English. Now I am not an academic; my degree is a modest BA in journalism, fifteen years old at that, but I think that I can qualify as a reasonably intelligent and literate man, and science fiction is a field about which I know a fair amount.

I wouldn't expect to be able to read a learned dissertation on plasma physics (I recently looked at one and had to give up) but I should think that a book on science fiction should be accessible to . . . well, to somebody who's written three science fiction novels and one book *about* science fiction and related fiction. These are my own modest credentials to date and I tell you in honesty and without exaggeration, I don't know what the hell this book says.

I *think* it says that Wells was very important in the development of science fiction, and nobody who has studied the pre-pulp era would deny that statement. I think it says, approximately, *But other writers contributed too*, which nobody would contradict either.

Academic writers living under the dictum of publish or perish have at times been accused of examining their own or one another's navels to the end result of producing endless dry tomes filled with impenetrable compilations of minutiae, and

Philmus' book is a prime exhibit in support of this contention. I had hoped—as a reader and loyal enthusiast of science fiction long before I ever committed a story to paper commercially—that science fiction would someday gain the recognition that it deserved but was denied by such literary “establishment” types as non-category book reviewers and Associate Professors of English.

If this is what we get when we get that attention, it isn't worth having.

—Richard A. Lupoff

**A HISTORY OF THE HUGO, NEBULA AND INTERNATIONAL FANTASY AWARD, Listing Nominees & Winners, 1951-1969.** Published by Howard DeVore, 4705 Weddel St., Dearborn Hts., Mich. 48125, 1970, 45 pp., 65¢ from the publisher only.

Periodically I receive letters from fans who want to know the names of the stories or books which have won the Hugo award. Although a brief list is included, as a rule, in the Program Book of each World S.F. Convention, much confusion over the actual winners and runners-up has accumulated over the years. Now at last a reasonably definitive publication has brought together all (or nearly all) the data on the Hugo awards since they were launched in 1953. In addition, data is also compiled on the International Fantasy Award and the Science Fiction Writers of America's Nebula awards. If for any reason you are looking for a list of the winners of these awards, here it is, all under one cover, with the added bonus of complete nomination listings, for the runners-up.

I wish I could recommend the package in which this information is given as enthusiastically. Unfortunately, the mimeographing is spotty on some pages, and the organization of information, while

straight-forward, is difficult to scan easily. My copy also has several pages bound in backwards.

The format is quite simple. Donald Franson writes a five-page introductory article in which, under the headings “Conventions and Categories” and “Winners and Losers,” he briefly sketches in the background history of the various awards and underlines the changes made in the award structure over the years. The following 29 pages list, by category, the nominees and winners of the Hugos, starting with the novels and trailing off into the one-shot awards, committee awards, etc. The nominees for 1969 are given, but not the winners; these are on a supplementary sheet in the back of the booklet.

There follows a two-page explanation and listing of the International Fantasy Awards (given from 1951 to 1957, and more esteemed in some quarters than the Hugos of that period), a page by Howard DeVore in explanation of the Nebula awards, and seven pages of Nebula nominees and winners from 1965 (when the award was inaugurated) through 1969.

While I might wish for a neater job on the production, and perhaps a closer look at the histories of these awards (Franson covers only the well-publicized aspects, ignoring as possibly libelous the various rumors and acknowledged facts about the way some awards were fudged, both by ballot-box stuffing voters and by committees), I must commend the basic functionality of this publication. It sets out to do exactly what its title implies, does it, and stops. Bibliographers and curious fans alike will find it of obvious value.

However, if they want speculation over the meaning and circumstances of these awards, they'll have to seek elsewhere.

—Ted White

Sam Moskowitz, editor: **UNDER THE MOONS OF MARS**. Holt, Rinehart and Winston, 1970, 433 + viii pages, \$7.95.

This is the latest in Moskowitz's historical series, destined to stand on many library shelves alongside his earlier *Explorers of the Infinite*, *Seekers of Tomorrow* and *Science Fiction by Gaslight*. The first two were bi-bibliographical studies of the most important writers (in Moskowitz's sometimes eccentric estimation) in the development of science fiction. Each was accompanied by an anthology of stories by the authors discussed.

*Gaslight* and the current *Under the Moons of Mars* combine the study and the samples in a single volume—the new book is subtitled "A History and Anthology of 'The Scientific Romance' in the Munsey Magazines, 1912-1920."

The anthology contains nine stories or excerpts, filling 288 pages. Most of the stories Moskowitz selects are novels, and since it would be obviously impossible to include a representative variety of complete novels in a single volume, almost all the stories included are *portions* of novels . . . or are novelets which later appeared either with sequels or in expanded form as complete novels.

And in fact, eight of the nine excerpts or novelets are either currently in print, or have been reissued in recent years so as to be fairly readily available to the interested modern reader. These are stories by Edgar Rice Burroughs, George Allan England, Charles B. Stilson, J. U. Giesy, A. Merritt, Ray Cummings, Murray Leinster, and Austin Hall and Homer Eon Flint. In one or two cases—Merritt, for instance—the magazine version of the story used here differs from the version in other book editions. For the ordinary reader this is a point of limited interest, but for the scholar or critic whose involvement is great enough,

the availability of such a "variorum" may be good news.

One short story, Francis Stevens' "Friend Island," has not been reprinted before, and although it is a minor work it is of interest to modern readers who admire her longer stories.

Still, with the exception of "Friend Island" the stories in this book are all readily available, several are over-familiar, and one really questions the value of this anthology.

As for Moskowitz's 145-page history of science fiction in the Munsey magazines, that's another matter. Long ago when we were children we all learned how Hugo Gernsback invented science fiction when he founded **AMAZING STORIES** in 1926; later we learned that, well, there was a weird-fantasy-and-science-fiction magazine started three years earlier—*Weird Tales*. And still later we learned that four years before *Weird Tales* there was another effort, *Thrill Book*, which failed.

But before any of these or the other specialized pulps that thrived in the 1920s and the decades that followed, there were a good many general pulp magazines, that published large amounts of science fiction and fantasy, rather indiscriminately mixed in with detective stories, war adventures, cowboy yarns, jungle tales and so on.

The leading publisher of these pulps was the Frank A. Munsey Company, and the bellwether of the Munsey line was *Argosy* magazine, a remote ancestor of today's slick *Argosy*. Moskowitz's extended essay is a history of these early pulp magazines, especially of those in the Munsey chain, and as such it constitutes an important chapter in the modern development of science fiction.

Moskowitz's prose, as usual, is crude, ponderous and bombastic, but if you can get past this barrier you will find the essay

packed with historical information on Munsey and his magazines, his several editors (most prominently Robert H. Davis), and the many writers who produced stories for him—notably those who stories appear in the current book.

Two factors prevent me from giving unqualified endorsement to the essay. One is that Moskowitz has a terrible habit of jumbling up fact, inference, personal prejudice and unsubstantiated assertion, and coming forth with those lumbering elephantine Moskowitzian paragraphs that leave the wary reader enraged and the unwary either befuddled or misled.

The other is that Moskowitz's research, while admirable for its volume, is not very reliable. Having read essays by him on two authors where I am possessed of slightly more than a layman's portion of information (Edgar Rice Burroughs and "Doc" Smith), I found them riddled with errors. Men like James Blish who are far better informed than I on certain other authors, and on literature in general, have told me that Moskowitz's books are absolute nests of faulty information.

Now, this being the case, when one reads a statement in a book of Moskowitz's—how does one evaluate that statement? If you tell me it's Thursday and I *know* it's Wednesday . . . and then you tell me it's snowing out and I *don't* know whether it's snowing or not—how do I evaluate your assertion?

To say the least, not too trustingly.

So, a very qualified and hedged-about endorsement for the essay in this book.

One more point: The previous volume, *Science Fiction by Gaslight*, contained a set of wonderful illustrations from the old magazines where the stories in the book had originally appeared. No such illustrations are present in *Under the Moons of Mars*. They are sorely missed.

Moskowitz repeatedly describes the format and illustrations of the magazines of the period he discusses—how much better to reproduce a cover now and then, or an illustration, or a complete layout with artwork, title lettering, and copy, to show us what the old magazines looked like.

On this score I think the publisher rather than the author is culpable.

—Richard A. Lupoff

Harlan Ellison: *THE GLASS TEAT*. Ace Books 29350, New York, 1970, 318 pp., paper, \$1.25.

Harlan Ellison began his career as a fanzine editor of some note. (His fanzine of the early fifties, *DIMENSIONS*, was crammed with more major-name fan and pro writers than any other of that era, and its editor's personality oozed from between its cracks in much the same way Ellison's voice was to be heard from between each page of his omnibus anthology, *Dangerous Visions*.) Indeed, on the strength of his apprenticeship in fandom, Marion Zimmer Bradley predicted a long and distinguished professional career ahead for him.

That was something like half his life ago, and he has certainly borne out her prediction. Writing stories voluminously for every market—both in and out of sf—which he could tap in the fifties, becoming an editor at the close of that decade (first of *ROGUE* magazine, then of Regency Books), pushing on to Hollywood to script movies and tv, picking up awards in several fields including our own (two Nebulas, four Hugos), Harlan has pursued his career at a breakneck pace. One has only to know the man for a period of time (as I did, when we lived on the same block in the Village in 1960) to realize the sheer drive, the enormous output of energy, which thrusts Harlan onward. He lives his life under fantastic pressure, much of it his own

making, and his exploits have supplied his friends, acquaintances and enemies with enough stories to keep them all talking for the next fifty years.

We know him best for his activities in the sf world—where he has probably distinguished himself most, despite his occasional preoccupations elsewhere—but the present book gives us the opportunity to observe another side (or, sides) of the man. Put together from the columns of the same name written for the Los Angeles *Free Press*, *The Glass Teat* is ostensibly a book of television critiques. In actual fact, however, it is a running commentary on the thoughts and reactions of Harlan Ellison to mid-century American culture.

I should extend an immediate caveat: if you don't like the introductory notes Harlan customarily includes in his short-story collections, you'd best skip this book entirely. Those little squibs only hint at what this book contains. If, however, you feel as I sometimes do that his forewords are better than his stories, you will find this book fascinating at the very least.

Harlan is at once very much of, and yet somehow rather aloof from, American pop culture. Perhaps this is most easily illustrated by the fact that he chose to write a weekly column for one of the major "underground" papers, and yet has been outspokenly opposed to almost all drug use (he uses no drugs, does not drink, and recently gave up smoking). Over thirty, he dresses "mod" (since I've known Harlan these fifteen years, he has *always* been at the forefront of fashion in dress), talks "hip," and commits himself passionately and sincerely to all the "good" liberal causes. His collection of jazz records is as large as my own, and I have no doubt the same is now true of his collection of rock music. Yet, I have always sensed a striving in him to maintain himself among the "In"

fads and fashions, even when at heart he was contemptuous of the fad or fashion of the moment. (In 1966, at the Tricon, when he stated from the podium that every sf writer should be abreast of "Now" and "What's Happening," he offered as evidence the fact that he could reel off, from memory, the current Top Ten in pop recordings—and at the same moment expressed his distaste with such "shallow" music.) Whenever his name comes up among his friends, the many contradictions that are Harlan Ellison are inevitably discussed. This book will simply add a few more to the list.

His basic tenet is stated in the first column—the first entry in the book: television is the most potent medium yet available for reaching and influencing the minds of the populace. And television is being misused. The bulk of the book is devoted to the varying and various ways in which the medium is being misused. "They've taken the most incredibly potent medium of imparting information the world has ever known, and they've turned it against you. To burn out your brains. To lull you with pretty pictures. To convince you nothing is going on out there, nothing really important . . . To convince you that this country is still locked into a 1901-Midwestern stasis, and anyone who tries to propel us beyond that chauvinism and bigotry is a criminal."

Unfortunately, Harlan's examples are too often simplistic and paranoid. He seems to think that this manipulation of the medium is deliberately achieved with that end in mind. Thus, every piece of silly-assed pap which makes its way onto the networks' schedules is viewed not merely for what it is, but for what it seems to Ellison it does. And in this he begins to approach the flouridation-Commie-plot thinking from the opposite end. The IQ-90 sludge on tv



suddenly becomes part of a conspiracy to numb our minds and divert our thoughts.

On the other hand, he writes to deadly effect when he confines himself to direct reportage of what he knows, as an insider in Hollywood's tv-fare factories. He chronicles the progress of a script for *The Name of the Game* from the moment he was approached on the subject, through its development as a story idea, to treatment, to the sudden decision to drop it, and almost in passing makes obvious the real disaster that lies in writing for television: The rule of Committee that makes the coherent expression of a single author's conception almost impossible. The entrenched buck-passers whose lives are ruled by fear and who hold sway over those actually responsible for *creating* a television show have created a system which makes good television grow rarer by the year. But Ellison is too close to this system to realize it fully for what it is—it even pervades the Writer's Guild of which he is a member—and too close to realize that it—the system—is the source of what he abominates, and not some governmental conspiracy.

It's a long book, and there's much more in it than I've suggested here. I'm told he rewrote the first column for book publication—in its original form it diverged even more from the tone of the columns that followed—but even in its present state I wish it could be skipped. It betrays Ellison at his worst: uncertain of his audience, and

trying too hard, shouting too loudly and too closely to hysteria, in his attempt to put himself across. He did this just once before, to my knowledge, in his story-collection, *Love Ain't Nothing But Sex Misspelled*. Confined to a general introduction (rather than individual story-introductions) in his first hardcover book, he screamed when he should've whispered, and he behaved in general like a bull in the china-shop of the hardcover-book world. The result was that the critics ignored his stories (which were quite deserving of recognition) and shot him down in flames for the gauchery of his introduction. For the first time, you see, Harlan had been unable to visualize the audience to whom he was speaking, and so, with increasing nervousness, he kept raising the tone of his voice. He describes a real-life situation exactly like this—or so it must have seemed to him then—in his fifty-first chapter at the close of this book. He addressed a class of high school students in Dayton, Ohio. Their lack of response to the things he said led him to push harder and harder to find a way under their skins.

So it must've been in beginning a column for the *Free Press*, starting out with feedback, without being sure of whom he was addressing. The nervousness, the tenseness, the too-cuteness and too-loudness are still there, even after a rewrite.

But read it, and read past it. The rest of the book will make your time worth while.

—Ted White

(CONTINUED FROM PAGE 74)

she knew. She knew.

One of the others came for her. It was dark outside as it was within: it was cold. He came for her, and he took her, and she struggled, and struggled, and opened, bleeding, wishing for the warm—but there was only cold.

And she screamed. She screamed words

she'd heard the other women scream. They meant nothing to her, but she screamed, because of the pain. And the cold.

"Oh, God—" she screamed. "Oh God oh God oh God oh God oh God . . ."

But there was only darkness, and the cold.

—Gerard F. Conway

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